THE DEVELOPMENT OF AN INSERVICE TRAINING PROGRAMME TO ENABLE KINDERGARTEN TEACHERS TO BETTER MANAGE THE BEHAVIOUR OF YOUNG CHILDREN WITH BEHAVIOUR DISORDERS

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ABSTRACT

Children with severe behaviour problems occur in significant numbers in our kindergartens and schools. They have a profound and often destructive effect on those around them because of their high rates of non-compliant, aggressive, and antisocial behaviours.

In New Zealand, teachers have not traditionally been trained in methods that would enable them to better manage these children and to bring about improvements in their behaviour. This is especially so in early childhood education where the predominant developmental philosophy has resulted in a the rejection of the treatments that research has shown to be most effective in the remediation of antisocial behaviours in young children.

This thesis examined the training of kindergarten teachers in skills which would enable them to better manage young children with behaviour disorders in the kindergarten setting. An experimental analysis was undertaken in an attempt to identify the necessary components of an effective inservice training programme. The research consisted of a Pilot Study and four subsequent experiments. In the Pilot Study a three level multiple-gating diagnostic procedure was trialed as a procedure for identifying young children with behaviour disorders and a training programme was developed. This consisted of six workshops and the requirement that the teachers practise the skills which they had been taught. The hypothesis which guided the development of this training programme was that it should be easier for teachers to acquire and maintain behaviour management skills due to their history of training for educational practice and, as a result, that a training programme for teachers could be "looser" and less directive than the training required for parents. This proved not to be the case. While the teachers in the pilot study were very positive about the training, observational data collected throughout the experiment showed that there were no significant changes in the behaviour of the teachers and, as a consequence, none in the target children.

Following the failure of the Pilot Study, the training programme was modified to include stronger prompts for desired teacher responses to target children, the setting of specific behaviour change goals for the teachers' behaviour change, and the provision of

structured feedback on the teachers' performance. In addition, procedures for the maintenance of newly acquired skills were built into both the training programme and the practice requirements undertaken by the teachers who participated. The relative importance of one of these training components, feedback, was analysed in a series of four experiments each of which was carried out in kindergartens containing at least two children who met the definition of behaviour disordered.

In all four experiments the teachers who took part were able to acquire and use the management techniques taught during training. Those who showed the greatest levels of improvement were the teachers who, as part of their training and practice, were required to meet a criterion of acceptable performance for their newly acquired management skills, and who were provided with daily feedback on that performance. As a result of the improvements in the management behaviour of the teachers, improvements also occurred in the behaviour of all but one of the target children.

The results of these experiments suggested that it is possible to change the management behaviour of teachers in an early childhood setting to a level which enables them to effectively manage the behaviour of children with severe behaviour problems provided that the training programme includes well designed cueing, performance criteria, practice, and feedback components.

CHAPTER ONE

INTRODUCTION

The present study was motivated by five concerns. First, children with behaviour disorders are at risk of a number of negative outcomes as adolescents and adults (Fergusson Horwood & Lynskey, 1993; Olweus, 1979). These outcomes include increased propensity to engage in violence, criminal activity, substance abuse, inability to establish relationships, and abuse of partners and children. Not only is this group of children one of the most difficult to teach, it is also one of the more prevalent special needs groups in New Zealand kindergartens and schools. Although the exact numbers of these children are not known, a number of studies conducted in the United States and New Zealand (Munro, 1980; Norman, Sritheran & Ridding, 1984; Rossiter, 1982; Rubin & Balow, 1978) have indicated that anywhere between 2 per cent and 10 per cent of the school-age population may have serious behaviour problems. Most of the New Zealand studies tend to indicate that about 3 to 4 per cent of children pose serious behaviour problems in schools, a figure which equates to some 21,000 to 23,000 children of the school age population.

The second concern relates to the social and academic development of children with behaviour disorders. In educational settings these children usually demonstrate both social and academic learning deficits and, in addition, have a negative and disruptive effect on those around them (Church, 1996). Although these children are similar to others in terms of their learning potential, it is unusual for them to achieve at age appropriate levels as their disruptive, noncompliant, and, often, aggressive behaviour precludes normal development in preschools and schools. In addition, it is common to hear teachers lament the negative effect that children with behaviour disorders have on the dynamics of classrooms and schools.

The third concern, therefore, was that children with behaviour problems have a profound effect on those around them. This includes their parents, their teachers, and their peers. The non-compliant reactions and antisocial behaviour of children with behaviour

problems can produce feelings of frustration and despair. When Australian teachers were asked to identify and rank professional development needs the great majority placed the management of disruptive children at the top of the list (Connors, 1987). When American teachers were asked to rank management problems in order of difficulty, they ranked the management of children with behaviour disorders second only to the management of children with multiple handicaps (Horne, 1982). When asked to identify sources of stress, teachers in both Canterbury and New South Wales identified "pupil recalcitrance" as the most significant factor (Manthei & Solman, 1988). A comprehensive New Zealand study by Norman, Sritheran and Ridding (1984) found that 68 per cent of primary and intermediate teachers felt that children with behaviour disorders increased workload, 86 per cent felt that this same group of children added to their stress, while nearly 60 per cent reported that they did not feel competent to manage and teach children with behaviour disorders. The picture which emerges from these surveys is very clear. This group of children is consistently one of the most difficult to manage and teach and many teachers may not have the skills to do so successfully.

The fourth concern was the importance of early intervention. It seems clear that the more significant long-term change in the inappropriate behaviours of children with behaviour disorders are likely to occur if intervention takes place at the earliest possible stage in the child's life (Campbell, 1995; Sanders & Markie-Dadds, 1992). According to Walker, Colvin and Ramsey (1995) behaviour disorders in children under the age of seven years may be viewed and treated as a remedial condition, where inappropriate behaviour can be reduced and replaced with newly learned appropriate behaviour. Once the child is much older than seven years behaviour disorder becomes a chronic life long condition where the containment of inappropriate behaviour may be the only option. This argument is supported by the findings of Project Early, an early intervention programme for children with behaviour disorders operating in seven Christchurch primary schools. In an evaluation of the effectiveness of Project Early, Church et al. (1996) identified an 80 per cent success rate in the reduction of antisocial behaviour for children under eight years, but only a 20 per cent success rate for children nine years and over. In a similar early intervention project being

operated with preschool children in Christchurch, Church and his colleagues reported a 100 per cent success rate, with all of the children who took part reducing antisocial behaviour and reaching designated behaviour improvement goals (Church, 1996). Clearly, if effective, quick, and lasting change in behaviour is to take place it seems clear that treatment intervention should occur when the child is as young as possible.

The fifth concern was with respect to the most effective way to train pre-school teachers to acquire the management skills necessary to bring about improvements in the behaviour of young children with behaviour disorders. Most of the training programmes which have been developed for use with younger children have involved parent training and family settings (Patterson, 1982). Training programmes for preschool teachers in New Zealand emphasise a developmental, free play philosophy and include little training in the management of children with behaviour disorders. The development of a training programme that is practical, feasible, and effective in enabling kindergarten teachers to better manage children with behaviour problems in a setting with 40 other children and many distractions poses a very considerable challenge.

There would seem to be little point in bringing about improvements in the behaviour of children with behaviour problems if these changes only last for a short period of time. Once the treatment programme has been implemented and the problem behaviour brought under control, the tendency has been to view the treatment as complete, with little regard given to whether or not the improvements have been maintained by the child (Dumas, 1989; Robinson & Swanton, 1980; Singh, Deitz, Epstein & Singh, 1991). Few of the treatment programmes which have been developed and targeted towards children with severe behaviour problems have approached the maintenance of newly acquired social behaviour in a systematic way. Many ignore it altogether, while those that do mention it tend to do so in an almost incidental way (Bernstein, 1982; Stokes & Baer, 1977).

The primary aims of the investigations described in this thesis were (a) to accurately identify preschool children who were behaviour disordered, (b) to develop a training programme for kindergarten teachers which would be effective in developing skills which these teachers could use to better manage children with relatively serious behaviour

problems, and (c) to measure experimentally the relative importance of a key component of this training programme, selected feedback variables, on the acquisition and maintenance of behaviour management skills by kindergarten teachers.

CHAPTER TWO

CAUSES AND CHARACTERISTICS OF BEHAVIOUR DISORDER

The identification of children who have, and do not have, severe behaviour problems has a social and contextual dimension in a way that the identification of other disabilities, such as deafness, blindness, or physical disability do not. This is because adults have differing views and levels of tolerance with regard to children's behaviour. These differences have led to inconsistencies in the way in which children with severe behaviour problems have been conceptualised and identified and, as a result, to variations in the estimates as to how many such children there are in our pre-schools and schools.

This chapter examines the nature of the disorder, the origins of the disorder, effective and reliable ways of identifying children who are behaviour disordered, the numbers of such children in our schools, and the provisions which are currently being made for these children.

Diagnostic Classification

In order to study the effectiveness of differing remedial responses to children with persistent behaviour problems, the experimenter must first select a procedure which accurately identifies "children with persistent behaviour problems".

The attempts to classify children with persistent behaviour problems are of two general types: those in which the clinician judges the child to possess or not to possess some trait, and those in which the clinician judges the child to be engaging or not engaging in some set of behaviours. This difference is significant. In the first type, broad categories of behaviour are identified and children are classified in terms of whether or not they fall into that category. In the second type, specific problem behaviours are identified and children are classified in terms of the frequency with which they engage in these behaviours.

A number of trait type classifications have been proposed (Aylward, 1992; Bower, 1969; Kazdin & Frame, 1983; Loeber, 1985). For instance, Bower (1969) identifies five classes of " emotional handicap" which are defined in terms of traits. These are (a) an inability to learn which cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory interpersonal relationships; (c) inappropriate types of behaviour or feelings under normal conditions; (d) a general pervasive mood of unhappiness or depression; and, finally, (e) a tendency to develop physical symptoms, pains, or fears associated with personal or school problems. Bower refers to children who display one or more of these characteristics as "emotionally handicapped".

Aylward (1992) identifies six classes of behavioural problems in young children. These are problems of daily routine, aggressive resistant behaviour, over dependent-withdrawing behaviour, hyperactivity or excessive restlessness, undesirable habits, and developmental variations. In each case, the class of behavioural problem is defined in terms of a cluster of difficult behaviours that the child is engaging in. If the child is engaging in sufficient of the behaviours within a class he or she is diagnosed as belonging to that class of problem.

Loeber (1985) also uses trait descriptions to distinguish between two general groups of children with behaviour disorders: children who attempt to control their social environment through the use of direct tactics such as bullying, fighting, and intimidation, and children who respond to their environment by using underhand tactics such as lying, cheating, and stealing.

Kazdin and Frame (1983) attempt to differentiate two general groups of behaviour disorders: aggression and conduct disorder. They define aggression as behaviour directed against peers, such as verbal abuse, coercion, fighting, destruction, teasing, threats, and humiliation. Conduct disorders, on the other hand, are defined as behaviours directed against adults and usually involve noncompliance or the consistent breaking of adult imposed rules. Here again children are placed in one group or the other depending upon the behaviours which are being engaged in.

Any classification which is used to identify certain children as "socialised aggressive", or "emotionally handicapped" or "conduct disordered" must be one which can be reliably applied in clinical practice. Some of these category definitions contain terms which are vague and nonspecific (Aylward, 1994; Bower 1969). What is an inability to learn? What precisely are satisfactory relationships? What kinds of behaviour are believed to be inappropriate? What are normal conditions? What are undesirable habits or excessive restlessness? None of these behaviours are specified and could easily mean different things to different people. Other category definitions such as those proposed by Kazdin and Frame (1983) and Loeber (1985) while more specific in this regard, still attempt to classify children on the basis of general traits rather than specific behaviours. For example, children are classified as overt (Loeber, 1985), or conduct disordered (Kazdin & Frame, 1983) on the basis of the main behavioural traits which they display. Presumably, a certain number of indicator behaviours must be present before the child is so classified.

In general terms trait definitions suffer from two further problems. First, many assume that children with problem behaviours will tend to engage in behaviours that fall into one or the other of the defined categories. What happens, for example, if a child engages in behaviours that fall into more than one of the stated categories? To which category is the child to be assigned? Secondly, category definitions do not always make clear how many or how much of the behaviour is required before the child is to be included in the particular category. A question which could be asked with regard to trait-type classifications is why it is necessary to ascribe a general label to a child if it is possible, and in fact necessary for some of the classifications, to identify specific behaviours of concern? From a treatment perspective it would seem to be more useful to identify the specific behaviours of concern rather than broad categories of behaviours which may vary from person to person.

The second type of diagnostic classification attempts to overcome this problem by identifying the specific behaviours engaged in by the child. A number of examples of this type of classification have been attempted. The *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994) identifies three broad groups of behavioural problems; attention deficit hyperactivity disorder, conduct disorders, and

oppositional defiant disorder. Each of these is characterised by a set of diagnostic criteria and some information about the possible age of onset. For example, a conduct disorder can be diagnosed if there is a repetitive and persistent pattern of behaviour in which "...basic rights of others or major age-appropriate societal norms or rules are violated" as manifested by the presence of at least three out of a possible 15 criteria in the last 12 months. It then goes on to describe the 15 criteria which fall into four categories; aggression to people and animals, destruction of property, deceitfulness or theft, and serious violation of rules. In the case of conduct disorder it is also noted that there are two possible times for the onset of the disorder (childhood or adolescence) and three levels of severity (mild, moderate, and severe). It is of some importance that the American Psychiatric Association has moved from a trait type analysis of behaviour disorders in the *Diagnostic and Statistical Manual of Mental Disorders 3* (American Psychiatric Association, 1980) to the more recent attempt of identifying the specific behaviours associated with conditions related to behaviour disorders (American Psychiatric Association, 1994).

Patterson and Reid (1973) identified 14 "noxious" behaviours that seemed to occur with high frequency in boys who were referred for treatment to the Oregon Social Learning Centre (OSLC) for aggression. These noxious behaviours are: command negative (negative instructions or commands to another person), cry, disapproval, dependency, destructive, humiliate, ignore, non-comply, negativism, tease, physical negative, whine, verbal abuse, and yell. Each of these behaviours is carefully defined. This attempt, while far more specific than those previously described, still suffers from two problems. First, the list was generated by observing children referred to the OSLC because their parents were having difficulty managing their behaviour. Thus, what was regarded as "noxious" was determined, in the first instance, by a small group of parents who, by definition, had limited management strategies. In order to gain a more balanced view of what may be regarded as noxious behaviour Patterson and Reid (1973) sampled the views of parents of children who were not behaviour disordered by asking those parents to state what behaviours they considered to be noxious. The results of this second group of parents were very similar to that of the first group. Secondly, all children engage in "noxious" behaviours at some time

or other, or use them in some settings and not others. The fact that these behaviours are engaged in does not necessarily mean the child should be classified as behaviour disordered. A list of aversive behaviours, by itself, does not necessarily define a developmental disability which requires remedial action. The rates at which the behaviours are engaged in, the range of settings in which they are engaged in, and the stability of the behaviours engaged in are also factors which need to be considered.

One way of overcoming the problem of using only parental definitions has been described by Walker, Reavis, Rhode and Jenson (1985) who used a sample of teachers to identify the antisocial behaviours which were to be used as the basis for classification. Walker et al. undertook a series of studies at the Centre at Oregon in the Behavioral Education of the Handicapped (CORBEH) in which both regular and special education teachers rated a range of aggressive and disruptive forms of child social behaviour from most to least acceptable in the classroom setting. The pupil behaviours which the American teachers identified as most aversive included: stealing, self-injury, reacting inappropriately when corrected, aggression, obscene gestures and remarks, inappropriate sexual behaviour, refusing to follow rules, damaging property, tantruming, ignoring warnings and reprimands, disrupting the work of others, refusing to follow instructions, threatening, and taking things without permission.

A closely similar approach was adopted by Alexander (1980) during the development of the Canterbury Social Development Scale (Church, 1989). A group of five teachers with experience in teaching children with behaviour problems generated a list of child behaviours which might function to identify children with behaviour disorders. Once the list was completed, samples of Christchurch teachers were asked to complete a trial version of the scale for a sample of their students. The items which were retained for use were the items which discriminated between children who had previously been identified as "difficult to manage" or "conduct disordered" and those who had not been so identified. The kinds of behaviours identified and retained in the scale included: demanding instead of requesting, rejecting the approaches of others, disrupting the work of others, hyperactive behaviour, ignoring warnings and reprimands, interrupting others when speaking, continuing to plead

or whine after a request has been refused, insulting others, aggression, ignoring instructions, refusing to cooperate, making threats, and moving about without permission. Clearly, the kinds of behaviours identified by both the American and New Zealand teachers as indicative of behaviour disorder are closely similar.

The second problem concerning the rates, settings, and stability of the behaviours engaged in has been addressed by Walker et al. (1985) and by Kauffman (1992). To engage in an antisocial behaviour does not by itself justify classifying a child as behaviour disordered. In addition to performing behaviours which most adults find aversive, three additional criteria are important. First, the child must engage in these behaviours at higher rates than is usual for similarly-aged children. Secondly, the child must engage in these high frequency aversive behaviours across a range of different settings (Walker et al. , 1985). Thirdly, these behaviours need to be present over a reasonable period of time (American Psychiatric Association, 1994; Kauffman, 1992). Only by adding these additional criteria is it possible to distinguish those children who may be behaviour disordered from those whose behaviour is simply "naughty", or temporarily abnormal, or an appropriate response to an abnormal situation.

To be selected as a subject for the present study, the behaviour engaged in by the child had to meet these four criteria. There had to be some reliable evidence that the child was (a) engaging in behaviours which adults found aversive, (b) engaging in these behaviours more frequently than did normally developing age-mates, (c) engaging in these behaviours across a range of settings, and (d) engaging in these behaviours since they started at kindergarten.

Although the definition which has been proposed has been shown to be one which can be reliably applied (Walker & Fabre, 1986), it nevertheless remains culturally relative. Whether or nor certain behaviours are defined as aversive is a culturally relative action. Consequently, behaviour disorder does not exist outside a social context (Kauffman, 1992). Unlike deafness, blindness, or physical disability, behaviour disorder is not an entity which can exist by itself. It may be possible to classify and measure behaviour precisely, but what is and what is not socially appropriate or aversive will always be dependent on such things as cultural, class, and group norms.

While all cultures recognise certain behaviours, such as delusions or certain forms of sexual behaviour, as deviant, other behaviours are deviant only in certain cultures and not in others (Gelfand, Jenson and Drew, 1988). For example, in both Maori and Pakeha culture in New Zealand, hiding in strange places, talking to ourselves, drinking urine, and refusing to eat are regarded as extremely deviant. Yet, the Indian leader, Mahatma Gandhi, did all of these things and was regarded as both rational and principled within his own culture.

Different cultures also vary in terms of age requirements for childhood compliance. The writer's experience in running workshops, courses, and seminars with over a hundred parents and teachers in the last four years suggests that New Zealanders of European origin (pakehas) tend to begin compliance training at a relatively early age. However, the child rearing patterns of Polynesian families, including Maori families, may be quite different. According to Whitney (1986) these patterns are characterised by early unconditional warmth and nurturance for infants followed by a cutting off of such noncontingent parent behaviour when the child is older. Older siblings are often expected to take over the supervision of the child with adult attention becoming unpredictable and rare. In other words compliance with adult instructions is required rather later by many Polynesian (and Maori) parents than it is by the majority of pakeha parents. Consequently, when these children reach institutions such as kindergarten or school, where such compliance is expected, they may be considered by some pakeha teachers to be deviant (Whitney, 1986).

The Naming Problem

Children who persistently engage in behaviours which adults find aversive have been referred to using a variety of labels: emotionally handicapped (Bower, 1969), emotionally disturbed (United States Supreme Court, PL 94-142, 1977), disturbed (Kauffman, 1992), socially and behaviourally maladjusted (Norman, Sritheran, & Ridding, 1984), conduct disordered (American Psychiatric Association, 1994; Kazdin & Frame, 1983), antisocial and coercive (Patterson, 1982), hyperactive (Ross & Ross, 1976), oppositional-defiant (Horne & Saygar, 1990), difficult to teach (Rossiter, 1982), and behaviour disordered

(Walker, Reavis, Rhode & Jenson, 1985) to list but some. The label that is used is of considerable importance because the label may influence our response to the condition which has been labelled. For instance, if terms such as "emotionally disturbed" are used, the label implies an emotional or psychiatric problem which should be treated by a child therapist or child psychiatrist. The term "hyperactive" implies a physiological basis to the problem behaviour that may best be treated by examining chemical imbalances and dietary control.

Assigning any label to a child is potentially dangerous as it carries with it the possibility of stigma, and will almost certainly have an impact on the educational and treatment decisions made for the child. Kauffmann (1992) also believes that terminology should be couched in such a way that it does minimum harm to the group of children concerned. For both of these reasons the terms "behaviour disordered" and "antisocial behaviour" will be used in this study. Both of these terms provide an accurate description of the disorder and are the least judgmental towards the child as a small person; it is the child's behaviour that is atypical, not the child himself or herself.

Prevalence

Early attempts to measure prevalence have asked teachers to list the children who have engaged in any one of a set of antisocial behaviours at any time during, for example, the current year (Kauffman, 1992). These surveys tend to count any child who has engaged in any of the listed behaviours, even if only once during the time period. Thus, the proportion of children counted during such surveys can vary anywhere from 10 to 50 per cent of those children surveyed (Walker & Fabre, 1986). Surveys such as these do not identify the number of children who repeatedly engage in aversive behaviours.

In a longitudinal study of 1500 children, Rubin and Balow (1978) asked teachers each year for three years to report whether or not the children in the study sample had shown behaviour problems. What constituted a behaviour problem was left to the individual teachers. Although half of the children in the sample were rated as being a problem some of

the time, only 11.5 per cent of the boys and 3.5 per cent of the girls were considered a problem by every teacher who rated them over the three year period. Werner and Smith (1977) conducted a study of all the children born on the Hawaiian island of Kauai in 1955. They found that about 25 per cent were reported as having behaviour problems of some kind, 17 per cent were reported as having behaviour problems severe enough to inhibit school achievement, 10 per cent were judged to need short term mental health services, and four per cent were judged to need long term mental health services. A more recent estimate of the prevalence of children with behaviour disorders in the United States, 2 to 6 per cent, is provided by Walker, Colvin and Ramsey (1995).

As is the case with the American studies, reports of the prevalence of New Zealand children who exhibit these characteristics depend upon who is asked and under what conditions. When asked to identify the pupils in their classes who were difficult to teach because of behaviour problems, senior infant teachers in the Christchurch area nominated 2.5 per cent of their pupils (Rossiter, 1982). Similarly, when the teachers from 14 Christchurch secondary schools were asked to identify pupils for whom "regular means of discipline were ineffective" they identified 2.6 per cent of the pupils surveyed (Munro, 1980). Norman, Sritheran and Ridding (1984) produced two separate figures after surveying 763 teachers and principals in New Zealand primary and intermediate schools. When asked to identify the pupils in the school who were " socially and/or behaviourally maladjusted" the teachers identified 3.4 percent of pupils as being maladjusted while the principals identified 1.9 per cent. In a comprehensive survey of Christchurch schools Church (1996) required teachers and principals to complete a two-stage identification procedure in order to identify the numbers of children at Years One, Four, and Seven who were behaviour disordered. The first stage required the schools to nominate children thought to be behaviour disordered and then, in a second stage, to complete the Canterbury Social Development Scale in order to confirm those children who had been identified at the first stage. At Year One 2.8 per were identified, at Year Four 4.4 per cent, and at Year Seven some 4.5 per cent were identified as behaviour disordered. This finding is significant for two reasons. First, the teacher nominations were checked by asking teachers to

complete a CSDS for each nominated child. Secondly, the findings indicate that as children become older more will be identified as behaviour disordered. One possible reason for this is that behaviours which cause teachers concern become more obvious and more difficult to manage as the child becomes bigger and more practised at using them.

These studies suggest that, within New Zealand classrooms, some 2 to 3 per cent of younger children and some 4.5 per cent of older children are likely to meet the above definition of children with behaviour disorders.

Identification

Four main procedures have been used to identify children with behaviour disorders. The first widely used procedure is the teacher nomination procedure. This procedure asks teachers or principals to say how many children in their class are children with behaviour problems (Bower, 1969; Norman, Sritheran & Ridding, 1984; Rubin & Balow, 1978; Werner & Smith, 1977). Rubin and Balow (1978), for example, left the decision as to which pupils were pupils with "behaviour problems" to the teachers who took part in the survey.

The second widely used identification procedure is the checklist procedure. Some popular examples of such instruments are the Achenbach Checklist (Achenbach & Edelbrock, 1979), The Behavior Problem Checklist (Quay & Peterson, 1979), the Walker Problem Behavior Identification Checklist (Walker, Severson & Haring, 1985) and the Canterbury Social Development Scale (Church, 1989). The Achenbach Checklist contains 113 items and is designed for use with children aged between 4 and 16 years. Each item is rated along a three point scale in terms of "how true it is" of the behaviour of the child being rated. The scale assesses both overt behaviour problems (tantruming, aggression) and covert behaviour problems (lying, stealing). The Walker Problem Behavior Identification Checklist consists of 23 items each containing a five point scale which asks teachers to rate the frequency of the particular problem behaviour from "never" to "frequently". The Canterbury Social Development Scale contains 40 items and asks teachers to score each

behaviour on a five point scale from "very frequently" to "never". Each response then receives a score from 1 through to 5. These scores are added to produce a total. The highest possible score is 200, with children who score below 140 being classified as behaviour disordered. The advantage of this scale is that it was developed for use in New Zealand schools.

A third procedure which is sometimes used to identify children with behaviour disorders is the projective testing procedure. In this procedure projective tests that indirectly measure the child's "underlying emotional state" are used (Wacker, Northup & Cooper, 1992). Examples of these include the Thematic Apperception Test, the Children's Apperception Test, Tasks of Emotional Development, and Figure Drawing. These tests tend to be projective in nature, asking the child to say what they feel or think when presented with certain stimuli. The main goal for such tests is to attempt to diagnose problematic behaviour and screen for it. The end result is a descriptive diagnosis which indicates a need for some form of treatment or intervention, but provides little information as to what type of intervention may be appropriate.

The fourth widely used identification procedure is direct observation. Wacker, Northup and Cooper (1992) argue that the purpose of behavioural assessment should be to prescribe treatment by focusing on the child's interaction in given situations, such as home and school. The emphasis here is on what the child "does" or what the behaviour "is for". This means that treatment is based on directly observing the child in the environment and then changing that environment as a means of changing the child's behaviour and developing new skills. Direct observation requires that the problem behaviours be carefully defined and then systematically observed over a period of days in the environments in which they occur.

Taken individually, all four types of identification procedure are potentially problematic. Simply asking teachers or parents to identify children whom they consider to have behaviour problems means the process is extremely unreliable. Parents and professionals have differing views on what constitutes a behaviour problem. This may depend upon their perception of the problem (Kauffman, 1992) or their level of skill in

dealing with the problems (Patterson, 1982). Two examples of the reliability problem are provided by Rossiter (1982) and Church (1996). When Rossiter (1982) asked teachers to nominate "difficult to teach" children, they nominated 10 per cent of the children in their infant schools. When they were asked to work in pairs and to nominate only the children whom they agreed upon, the nominations fell to about 3 per cent. When Church (1996) asked teachers in the Canterbury region to nominate children who were difficult to manage at three age levels they nominated 4.7 per cent of Year 1 children, 6.7 per cent of Year 4 children, and 6.5 per cent of Year 7 children. When these same teachers were asked to complete the Canterbury Social Development Scale for each of the children they had nominated in the first round, they identified 2.8 per cent of Year 1 children, 4.4 per cent of Year 4 children, and 4.5 per cent of Year 7 children.

From the examples described above it would appear that behaviour checklists partially overcome the problem of possible teacher subjectivity when identifying children with behaviour disorders. They focus on behaviours which are agreed to be problematic. In addition they attempt to ascertain the frequency of each behaviour by getting teachers to estimate frequency of occurrence across a range. They also attempt to quantify the behaviour in some way. However, they too suffer from unreliability. The rating received by a child may depend upon the perceptiveness of the teacher, the teacher's level of tolerance for the behaviour, and teacher memory (Church, 1996).

Projective tests suffer from a number of problems in terms of their ability to identify children with behaviour disorders. First, they tend not to look at what the child does but rather to describe some underlying emotional state that is presumed to exist within the child. Secondly, they use indirect measures of behaviour to categorise children. Thirdly, they provide little or no information that will be of benefit in the treatment of the child. Finally, they may suffer from validity problems (Sivan, 1992). The gap between what a projective test says it is testing and what it is actually testing may be considerable.

Direct observation does give a clearer picture of the behaviour of the child. By observing the child in her or his natural environment in a regular and systematic fashion much of the unreliability of the other three methods can be avoided. However, this method

is intensive, costly, and time consuming. Rarely is it practical to make direct observations on every child whom a teacher suspects of being behaviour disordered.

With preschool aged children, the accurate identification of behaviour disorders is especially difficult (Kauffman, 1992). The child's behaviour constantly interacts with parenting behaviour. Parents and other adults vary markedly in their tolerance for behavioural differences in children. In addition, the preschool itself may be a potential source of problems as children have to learn to meet the demands placed on them there.

The most accurate identification procedure developed to date is the Standardised Screening for Behavior Disorders (SSBD) procedure, a multiple-gating identification procedure developed by Walker and Fabre (1986). The goals of the SSBD are to provide regular mass screening services for all children and to improve the quality of identification of children with behaviour disorders for referral purposes. The procedure comprises three screening "gates" through which potential candidates must pass before they can be said to meet the definition of behaviour disordered. The procedure at each gate becomes progressively more objective but also more time consuming. At the first stage (or gate) teachers nominate those children whom they believe to be engaging in behaviour which is causing significant difficulties. This problem behaviour is categorised in one of two ways. Externalising behaviour refers to those behaviour problems that are directed outwardly toward the external social environment. Examples would include aggression, damaging property, and verbal abuse. Internalising behaviour refers to those behaviour problems directed inwardly and away from the external social environment. Examples would include failing to initiate social interactions with peers, to converse with others, or to play with others. The second stage asks teachers to independently complete a rating scale for the three children who appear to be most at risk. Walker and his colleagues at the Oregon Social Learning Centre developed the Walker Problem Behaviour Identification Checklist for this purpose (Walker, Severson & Haring, 1985). The third stage requires teachers to make direct observations of pupil behaviour in both the classroom and playground. Walker and his colleagues developed two direct observation schedules designed to record the playground and classroom behaviour of both antisocial and normal pupils (Walker & Fabre,

1986); the Target/Peer Interaction Code (TPIC), which measures positive and negative pupil behaviour and peer responses in free play settings (such as the playground) and the Pupil Academic Behaviour in Instructional Settings (PABIS), which records the behaviour of the children in the classroom.

Walker and Fabre (1986) report that two years of testing on the SSBD produced very encouraging results. Test-retest reliabilities for teacher rankings at Stage 1 and teacher ratings at Stage 2 were consistently in the range of . 74 to . 90. A year long test of the system during the 1985-86 school year involving 18 teachers and classrooms indicated that the Stage 2 and 3 instruments confirmed nearly 90 per cent of pupils identified as behaviour problems in Stage 1 of the initial teacher ranking procedures. What this means is that teachers are able to discriminate accurately between children who are behaviour disordered and those who are not in at least nine cases out of ten.

In the present study the screening procedure adopted was a three-stage screening procedure similar to the SSBD. Stage 1 required the teachers in each kindergarten to nominate their most difficult to manage children. No distinction was made between externalising and internalising behaviours. Stage 2 required all of the teachers in each kindergarten to independently complete the Canterbury Social Development Scale for the nominated children. The CSDS was used at this stage as it was developed locally and because field trials had indicated that with primary school aged children it identified older children with behaviour disorders with 95 per cent accuracy (Bradshaw, 1989). Before children are moved to the next stage of the screening process it is usually necessary for them to score 140 or less on the CSDS. Stage 3 required those children who scored 150 or below on the CSDS to be observed in the kindergarten on five occasions in order to measure the rate at which antisocial behaviour was being engaged in.

The procedure described has a number of advantages that favour its use. First, it is systematic, requiring a logical progression through a series of steps. Secondly, it uses both the perceptions and judgements of teachers plus the increased objectivity of a standardised rating scale and systematic observation. Thirdly, it identifies those children who are behaviour disordered more accurately than a single stage procedure. Fourthly, the first two

stages are quick, simple, and accurately screen out those children who do not warrant the more costly and intensive observation procedures used in the final stage.

The Origins and Stability of Antisocial Behaviour in Children

Patterson (1982) laments that as a young therapist he tried nondirective play therapy, psychodrama, and other combinations of individual and group therapy in attempts to treat aggressive children. These were the methods in which he was trained and were the accepted treatment procedures of the time. By the early 1960's it was clear to Patterson that none of these therapies worked (Patterson, 1982).

Failure to bring about real change in the behaviour of children with behaviour disorders may have dire consequences both for the child and for those around him or her through adolescence and into adulthood. The results of a number of longitudinal studies (e.g. Robins, 1966) suggest that, once established, antisocial behaviour tends to persist throughout the life of the individual. The correlation between childhood behaviour disorder and antisocial adult behaviour is substantial. Robins (1966), for example, examined the adult adjustment of 524 children who had been referred to a guidance clinic for children with behaviour problems during their primary school years. He found that, as adults, 71 per cent had been arrested at least once, 70 per cent were separated or divorced, and 22 per cent had been diagnosed as sociopathic. After reviewing 16 longitudinal studies, Olweus (1979) concluded that measures of aggressive behaviour are as stable as scores on an intelligence test. Patterson, DeBaryshe and Ramsey (1989) argue that antisocial behaviour begins early in life and continues into adolescence and adulthood. They conclude that there is a high degree of intergenerational transmission for antisocial behaviour and that adults who engage in antisocial behaviour raise a significantly greater proportion of children who display antisocial behaviour. These trends are confirmed in a 15 year longitudinal study of 1000 children in the Christchurch area. Fergusson, Horwood and Lynskey (1993) discovered the existence of a high level of stability of the externalised traits of conduct disorder over a four

year period from the ages of eight years to 12 years and a high correlation between conduct disorders in middle childhood and later juvenile offending.

The results of these studies suggest that time alone does not take care of the problem. Once antisocial behaviour develops, there is a very good chance that it will continue into adulthood unless certain conditions intervene to bring about changes.

The way in which the disorder is conceptualised is of some importance because this conceptualisation influences the way in which therapists are likely to respond to the antisocial behaviour. Three types of conceptualisations, or causal models, may be found in the literature. First there are the biogenic models which seek to explain the behaviour in terms of neurophysiological mechanisms (e.g. Eyde & Fink, 1979). In this type of model, behaviour disorders are hypothesised to result from a genetic or biochemical condition. Cooke (1995) comments that the conceptualisation of Attention Deficit Hyperactivity Disorder (ADHD) is predicated on the idea that a chemical imbalance is present in children who suffer from the symptoms of this condition. A Christchurch paediatrician, Caseley (1995) supported this view in an address to the Canterbury Primary Principal's Association when he argued that the most likely cause of ADHD was an imbalance of chemicals in the child's brain. As biogenic models involve a physiological conceptualisation of behaviour disorder the treatment procedures derived from this model require the chemical imbalances to be altered until the behaviours of concern are reduced to acceptable levels. This is usually achieved through medication, such as the consumption of Ritalin, in the case of children diagnosed as having ADHD.

The second kind of model is the cognitive model which seeks to explain behaviour in terms of hypothesised mental constructs. These are of three types. Psychodynamic models are based on the presumption that behaviour disorders result from a pathological imbalance between various parts of the individual's personality (e.g. Bettelheim, 1967). Psychoeducational approaches are based on the presumption that behaviours are the result of an individual's unconscious motivations and underlying conflicts (e.g. Fagen & Long, 1979). Humanistic approaches are based on the presumption that behaviour disorders are the result of lack of self-direction, self-fulfilment, or individual choice (e.g. Dennison,

1969). Treatment procedures derived from these models usually involve individual or group therapy aimed at generating insight into the reasons for the inappropriate behaviour and at resolving the conflicts presumed to exist in the personality of the client.

The third type of model is the social learning model. Social learning models seek to explain behaviour in terms of ecological and environmental influences on the individual child (e.g. Bandura, 1977; Patterson, 1982; Walker & Fabre, 1986). Treatment procedures derived from this model involve changing the environmental conditions including the responses which others make to the individual's behaviour.

Because these different explanatory models imply different therapeutic procedures, the investigator who seeks to develop therapeutic procedures cannot adopt an eclectic approach to these explanatory models. A particular model must be selected.

The perspective taken in this thesis is that the adoption of a particular explanatory model of the origins and causes of behaviour disorder should be based upon the degree of empirical support that exists for that model. This empirical support should demonstrate that the therapeutic method derived from the model accurately and consistently produces predictable changes in the behaviour of the individual who is the subject of the therapy. Only one of the models described above meets these criteria. The model that does so is the social learning model.

Social learning theorists argue that the child is part of a complex social system and that problem behaviours are shaped by the interactions between the child and those in the child's environment. They argue that the child's behaviour is a function of environmental events, such as the way family members respond to certain actions and that this is true for both appropriate and inappropriate behaviour (Patterson, 1982). Intervention involves changing the child's environment and the responses of others to the child's antisocial behaviour in specific ways.

As an explanation for behaviour disorders in children the social learning model has been subjected to extensive and systematic scrutiny (Bernstein, 1982; Dumas, 1989; Forehand, 1986; Patterson, 1982) . Because social learning theory allows accurate predictions of the kinds of interventions which are likely to lead to a reduction in antisocial

behaviour and an increase in social behaviour, and because a large corpus of experimental research shows that these interventions have the predicted effect (Graziano & Diament, 1992; Sajwaj & Dillon, 1977), it is the social learning conceptualisation which has been adopted for the research reported in this thesis.

The social learning explanation of how children develop behaviour disorders consists of a set of empirically verified propositions regarding the effects of (a) ecological and (b) behavioural factors. Ecological factors include such things as the child management skills of the parents, what they do in response to their child's behaviour, when they do it, and how often they do it. The behavioural factors include such things as the positively and negatively reinforcing (and the positively and negatively punishing) reactions of (a) parent to child behaviour and (b) child to parent behaviour. Both are tightly related to the development of antisocial behaviour as part of the process of social learning taking place for the child.

Children who are behaviour disordered have learned to behave in ways that are characterised by three important features. The first is high rates of antisocial and coercive behaviour, including high rates of non-compliance (Patterson, 1982; Patterson & Reid, 1973; Reid, 1978; Walker, Colvin & Ramsey, 1995). The second is low rates of prosocial behaviours, including low rates of compliance (Patterson, 1982). Finally, children with behaviour disorders are characterised by social and academic skills deficits (Patterson, 1982; Walker, Colvin & Ramsey, 1995; Walker & Fabre, 1986).

Social learning theorists argue that high rates of antisocial behaviour are learned as a result of a particular pattern of interaction between the child and his/her parents during the first five years of life. This interaction involves both positive and negative reinforcement processes. Patterson (1982) argues that antisocial behaviour is positively reinforced when child demands result in the submission or compliance of the person against whom the behaviour is directed. For example, when a child makes a demand in an aggressive or defiant fashion, the parent may back down and submit to the child's aggressive demand. Patterson, Littman and Bricker (1967) observed the interactions of 36 young children in a nursery school. They reported that some 80 percent of peer and staff reactions to antisocial

behaviour resulted in that behaviour having positive consequences for the child. Usually, this meant that the child performing the antisocial behaviour got her/his way at the expense of another child or adult. Wahl (1971) and Snyder (1977) report that there are also positive consequences for coercive behaviour in the homes of children who are behaviour disordered. Wahl (1971) found that 47 percent of parent responses to coercive behaviour produced positive outcomes for that behaviour. Snyder (1977) found that 65 percent of the parent responses did so.

Parents also negatively reinforce the antisocial child's coercive behaviour. As a result of the child's aversive responses to parental task demands, the parents may gradually withdraw such demands and stop expecting acceptable levels of compliance from the child. By removing the requirements for age appropriate behaviour and compliance to reasonable parental demands, the child's coercive behaviour is steadily reinforced by parents too reluctant to confront the child's antisocial behaviour. As the child gets older and bigger it becomes even more difficult for the parents to confront the coercive behaviour, as doing so may well place them in physical danger. In the writer's experience as the Principal of a large primary school many parents of children with behaviour disorders report that they do not have compliance problems with their children at home. However, when questioned further most agree that one of the reasons for this is that they have ceased to make demands of their children.

The reasons why parents and other adults become involved in this increasingly coercive pattern of relationships is not certain, however there appear to be some clear factors which place some families at risk of producing these very negative relationships. Risk factors such as social adversity, lack of parental supervision, poor parenting, household disorganisation, poorly defined rules, and parental psychopathologies have been identified by a number of researchers as being correlated with the kinds of negative and coercive relationships described above and, as a consequence, children with behavioural problems (Aylward, 1992; Gelfand, Jenson & Drew, 1988; Sanders & Markie-Dadds, 1992). These risk factors were confirmed in the Christchurch Child Development Study (Fergusson, Horwood & Lynskey, 1993) which tracked some 1000 children over a 15 year period. The

researchers found that of the 3.0 per cent of children who developed severe behavioural problems as teenagers most came from multiple-problem home environments. These problems included material disadvantage, parental criminality, impaired parenting and child care standards, and family instability and conflict. Only one child (0.2%) came from the most advantaged 50 per cent of the families in the sample, while 20 per cent came from the most disadvantaged 5.0 per cent. Fergusson and his colleagues add a cautionary note to their findings. They argue that socio-economic status alone is not completely deterministic in terms of producing dysfunctional family relationships as not all children from extremely disadvantaged families develop behavioural problems. In fact, the majority do not. What can be claimed is that the characteristics which are associated with the kind of social disadvantage described above are more likely to produce dysfunctional relationships and that a greater number of children who are behaviour disordered are likely to come from disadvantaged homes than from relatively advantaged homes.

The writer's discussions with many parents and teachers of young children who demonstrate behavioural problems have produced four groups of responses which seek to explain the child's behaviour. The first are the "don't know" group who either (a) do not set clear rules and expectations for the behaviour of their children, or (b) do not know how to respond to appropriate and inappropriate behaviour when it does occur. Patterson (1982) observed the different responses of parents of children with behaviour disorders and the parents of normally developing children. The parents of the children with behaviour disorders consistently demonstrated a greater tendency to "natter" at and threaten their children when the children behaved inappropriately. This was seldom followed up with any kind of effective consequence. A second group of parents excuse their children's behaviour away by arguing that the child is merely going through a "stage" and will grow out of the behaviour in due course. This "let it be" group contend that time will take care of it and that the child will develop appropriate social behaviour when she or he is ready. A third group of parents refuse to confront their children's antisocial behaviour because it simply "makes life easier". For this "it's all too much" group, the thought of continually doing battle with their child is more than they can bear, so they give in. This usually means that they stop

making fair and reasonable requests of the child and stop expecting age appropriate behaviour to occur. The final group of parents are those who refuse to confront their child's antisocial behaviour because they think it will somehow damage the child psychologically to do so. This "amateur psychologists" group believe that by confronting the inappropriate behaviour of their children, and placing limits on their behaviour, they will restrict the psychological development and creativity of their children.

Secondly, children with behaviour disorders display low rates of prosocial behaviour and compliance (Budd, Green & Baer, 1976; Forehand, 1986; Forehand & King, 1977; Forehand et al., 1979; Wahler et al., 1965; Wahler, 1969; 1980). Patterson (1982) hypothesises that the parents of antisocial children are less effective than the parents of normal children in their use of positive reinforcement to shape prosocial behaviour. He argues that the parents of antisocial children tend to use fewer reinforcers than the parents of normally developing children and that they are less likely to use reinforcers contingently. Reid (1978) and Patterson (1980) observed that, in normal families, reinforcing events such as positive physical touching, approval, and approval for child compliance were all significantly higher than they were in the families of children who were behaviour disordered. In addition, it was also noted that normal families displayed one feature that almost never occurred in the families of antisocial children; an intensive "how was your day" exchange. At these exchanges, information is shared between family members about the day's activities and this provides a large number of opportunities for specific and positive parental responses to what the children have done. The children received undivided parental attention and interest directed towards specific positive behaviour and activities.

Not only do the parents of antisocial children use fewer reinforcers, but those which are used are not contingent on any particular class of responses (Loeber, 1981). The parents of these children may well use positive social reinforcers from time to time but do not specify what they are for. Comments such as, "You're being a good boy" or "You're much better today" give the child no information whatsoever as to why they are being good or how they should behave next time.

Thirdly, children with behaviour disorders have social skills deficits (Achenbach, 1978; Church, 1996; Walker, Colvin & Ramsey, 1995; Werner & Smith, 1977; West & Farrington, 1973). Patterson (1982) comments that children who are diagnosed as "emotionally disturbed" are really "socially unskilled" in that they simply do not know, or are not proficient at, performing appropriate social behaviours.

Two processes appear to stand in the way of the acquisition of appropriate social behaviour. One of these is that children with behaviour disorders have a lack of opportunities to practise prosocial behaviours. This may be because they come from homes where appropriate models of social behaviour are lacking from the adults and other children present. Patterson (1982) observed that the vast majority of the families referred to the Oregan Social Learning Centre for treatment were comparatively unskilled themselves. Very often the relationships between the adults in the home were based on the same patterns of coercion that characterised the relationship between the child and the parents. It may also be because these children are frequently rejected by their peers, and consequently do not get to practise normal age-appropriate social behaviour as often as other children do. In a peer sociometric study Moore (1967) showed that the aggressive child tends to be rejected by nursery school peers. Studies of older children also suggest that aggressive children have low rates of acceptance in elementary schools (Gottman, 1977; Gottman, Gonso & Rasmussen, 1975). If these children do not get to see and use appropriate social behaviour in their homes, and are rejected by children who use appropriate social behaviour at kindergarten and school, it is to be expected that the development of social skills will be delayed.

As Patterson puts it;

> "Only a parent loves a child enough to go through the hundreds of trials in which the child learns when he can, or cannot , use pain control techniques. Later, his wife or psychoanalyst may give him love and support equal to that given by his mother, but they cannot teach him at the molecular level those subtle skills that he should have learned prior to age 6 or 7. Parental power, relative to a preschool child, is simply overwhelming. Social workers, friends, or therapists do not possess an equivalent means for punishing adolescent and adult deviant behaviour. They may help the adolescent to feel better about his antisocial behaviour but they cannot stop the behaviour in the sense that a parent can" (Patterson, 1982, p. 220).

The presence of high rates of antisocial behaviour and the existence of large social skills deficits have important implications for the treatment of these children. Patterson's work suggests that treatment programmes which seek to improve the management skills of parents or teachers need to teach those parents and teachers (a) to reduce the positive reinforcement for coercive and antisocial behaviour, (b) to reduce the negative reinforcement for coercive and antisocial behaviour, (c) to increase the positive reinforcement for prosocial behaviour, and (d) to increase parental and teacher monitoring of the child to enable the consistent differential reinforcement of prosocial behaviour when it occurs.

In the present study these four essential characteristics were included in the development of an inservice training programme which sought to reduce the level of antisocial, and increase the level of prosocial behaviour for children identified as behaviour disordered in kindergarten settings. The specific treatment procedures which were developed in order to enskill the teachers with improved behaviour management skills will be described in Chapter 3.

Educational Provisions and Placements for Children with Behaviour Disorders

According to Ministry of Education statistics, there are 660,000 children in primary and secondary schools in New Zealand (Ministry of Education, 1995). If 4.5 per cent of these children have severe behaviour problems this means that there are approximately 29,000 children in the compulsory education sector who meet the definition of behaviour disordered. Special educational facilities cater for only 800 or so of these children (Ministry of Education, 1995). The vast majority, some 95 per cent, are currently catered for in regular educational settings (Church & Langley, 1989). These children fall into two groups. The first group are those who receive some support in regular schools. While it is difficult to be precise, data provided to the author by the Special Education Service suggests that Guidance Unit teachers and school psychologists offer support to about 4,000 children with behaviour disorders in regular primary, intermediate, and secondary school settings.

The second group, some 70 per cent, or 20,300 children, are dealt with on a day-to-day basis only by their classroom teachers, who may receive little or no support or guidance for this. Here again, these figures do not include the number of children with behaviour problems who are under school age.

If the responsibility for the large majority of children with behaviour disorders is to lie solely with teachers in regular educational settings, there is an urgent need for effective, comprehensive, and cost-efficient inservice training for this group. Without such training, the teaching of these children will continue to be a stressful, frustrating, and ineffective exercise in containment which produces little improvement in the social or academic achievement of the children concerned.

CHAPTER THREE

TREATMENT APPROACHES

Chapter 3 examines the various treatment procedures that have been used by social learning theorists who have attempted to bring about improvements in the behaviour of children with behaviour disorders, and to maintain these changes over time. These include the reinstatement of age appropriate demands, the use of differential attention, tangible reinforcers, and punishment as treatment components which have sought to improve the behaviour of children with behaviour disorders. In addition, Chapter 3 also examines the use of social skills training as a means of teaching children appropriate social behaviour.

Reinstatement of Age Appropriate Demands

The reinstatement of age-appropriate behaviour and task demands in conjunction with increased reinforcement for compliance and prosocial behaviours and, in some cases, the use of a punishment contingency such as timeout for antisocial behaviour form the basic components of treatment programmes for young children with behaviour disorders (Church & Langley, 1989; Patterson, 1982). According to Patterson (1982) and Church and Langley (1989) one of the factors in the development of antisocial behaviour in young children is that adults remove age appropriate demands from the child. This occurs because adults often find it less punishing to remove requirements than face the unpleasant consequences of insisting that they are carried out. As a result less is expected from children with behaviour disorders than that which is expected from their peers. Consequently, the first stage in the remediation of antisocial behaviour is to identify and reinstate age appropriate demands as behavioural goals for children with behaviour disorders (Church, 1996). These demands may be as simple as making normal requests of a child with behaviour disorders (rather than avoiding to make such requests), such as putting away materials which have been used for an activity or coming to the mat when

asked, and expecting that these requests will be carried out. In more extreme cases the requests may involve the child functioning in a situation, such as a free play activity, without acting aggressively towards another child.

Differential Attention

Differential attention (DA) is a procedure which requires the therapist, parent, or teacher who is working with the child to give social reinforcement, such as verbal praise, when the child performs compliant or prosocial behaviour. Inappropriate behaviour is ignored. The reasoning behind the use of DA is that inappropriate behaviour is being reinforced through adult attention. By removing the adult attention from the inappropriate behaviour and re-directing it to appropriate behaviour, it is thought that the inappropriate behaviour will decrease and the appropriate behaviour will increase (Cooper, Heron & Heward, 1987).

A number of early studies demonstrated the successful application of the differential attention procedure in a wide range of educational and home settings (Becker, Madson, Arnold & Thomas, 1967; Bijou, 1965; Cooper, Thomson & Baer, 1970; Cormier, 1969; Hall, Lund & Jackson, 1968; Veenstra, 1971; Wahler, Winkel, Peterson & Morrison, 1965). In all of these cases, therapists trained teachers or parents to attend to the compliant or prosocial behaviours of children and to ignore noncompliance or antisocial behaviour. The data from these studies suggests that DA, if applied correctly, can be an effective procedure for decreasing the antisocial behaviour of some young behaviour disordered children.

However, as further studies examined the effects of DA some doubts began to emerge. Wahler, Winkel, Peterson and Morrison (1965) trained the mothers of young noncompliant children to use the DA procedure in a preschool. In two out of three cases the procedure was successful; however, in the third case it was not. Only when a time out contingency was added to the reinforcement contingency was there any improvement in the third case. Although the authors of this study did not comment on this at the time, Wahler

(1969) did express concern when an attempt to replicate the earlier study produced similar failures. In this study he observed that DA was ineffective for five children who displayed severe antisocial behaviours. Again, the introduction of time out for noncompliant behaviour produced the desired improvement. Wahler concluded that in cases of severe oppositional behaviour, DA alone may be insufficient to bring about improvements in the child's behaviour.

After a decade of work with the families of children with behaviour disorders, Patterson (1982) also concluded that DA alone is insufficient to bring about improvements in the severe antisocial behaviour of this group of children. Patterson concluded that, "extinction, per se, was not successful even when combined with the reinforcement of competing responses" (Patterson, 1982, p. 136). He suggested that this may be because it is impossible to remove all of the reinforcement for antisocial behaviour from the child's environment, even in cases where a concerted and deliberate effort is made to do so.

Several other studies have found that DA is not only ineffective, but may even worsen the undesirable behaviour. Herbert et al. (1973) trained the mothers of five preschoolers to use DA to reduce disruptive behaviour in two preschool settings in different cities. Not only was the DA found to be ineffective, the deviant behaviour actually increased in frequency.

In an analysis of studies using differential attention alone, Sajwaj and Dillon (1977) noted that the procedure was successful in 87 cases and unsuccessful in 27 cases. They also noted that, when time out was added, the failures quickly became successes. These results are supported by two recent reviews. After reviewing 79 studies on Parent Behavioural Training, Graziano and Diament (1992) concluded that reinforcement alone is not enough to bring about behaviour change in children with severe noncompliance problems. Forehand (1986) reviewed a number of intervention studies that examined the effectiveness of reinforcement in changing the behaviour of deviant children. He concluded that reinforcement alone is not enough to bring about the desired changes, despite being viewed by parents as a positive and effective procedure. Both reviewers concluded that

better results are achieved when a Type 2 punishment contingency (usually time out) is introduced in order to decelerate targeted inappropriate behaviour.

These studies call into question the effectiveness of DA as a treatment procedure in certain cases. In cases where the antisocial behaviour is severe, DA on its own seems to be insufficient. There are two reasons why this may be so. The first is that it simply may not be possible to remove all reinforcement for antisocial behaviour. Some of this behaviour continues to be reinforced even though this may not be intended (Patterson, 1982). However, there is a second possibility as well. It may be that adult attention has failed to acquire reinforcing properties. It may be that for children with behaviour disorders normal social cues and consequences do not have the meaning which they have for normally developing children. As a result, simply changing adult attention from one group of behaviours to another has no effect.

Using More Effective Reinforcers

In cases where DA does not work, it may be possible to improve compliance and accelerate the development of prosocial behaviour by increasing the strength of the reinforcers for social behaviour. Usually this means the initial use of some kind of extrinsic reinforcement. These reinforcers usually consist of preferred activities or tangible objects which the child can earn by behaving in the required way. Studies which have used activity or tangible reinforcers have had considerable and consistent success, even with cases of frequent antisocial behaviour. Most have used a token system that enables the child to earn a proportion of the final reward each time the desired behaviour is produced. When the child has produced an agreed number of instances of the behaviour, she or he can then exchange the tokens earned for the preferred activities or tangible objects.

Herman and Tramontana (1971) used a token reinforcement procedure with groups of 5 and 6 year old Head Start children. They found that specific instructions followed by token reinforcers for compliance reduced disruptive behaviour to zero. This study illustrates both the need to target a specific behaviour, through the use of clear instructions,

and the need to use strong reinforcers in order to bring about the desired change. Baer, Rowbury and Baer (1973) used contingent access to free playtime, materials, and food to increase the compliance of three "extremely negativistic" children in a preschool class. In all three cases the differential reinforcement of compliance brought about significant improvements in the children's responses to adult instructions. Although a 1-minute time out procedure was added in the case of two of the children, they had made significant improvements without it. The third reached his target without it. A similar study was carried out by the same authors (Rowbury, Baer & Baer, 1976) in order to motivate four deviant preschoolers to complete set tasks. Again, the token-mediated access to play and food improved and maintained the target behaviour. Drabman, Spitalnik, and Spitalnik (1974) used four versions of a token reinforcement programme to reduce disruptive behaviour in a first grade classroom. Christopherson, Arnold, Hill, and Quilitch (1972) used a home point system, backed up by a variety of extrinsic reinforcers, to improve 15 household behaviours in five children in two separate families. The study shows how token reinforcement procedures can be applied in domestic as well as educational settings and be applied to an individual child or group of children.

For the present research, the use of both DA and extrinsic reinforcers was included in the training programme developed for the kindergarten teachers who took part. Both were included because, although DA will work for some children whose inappropriate behaviour is less frequent, teachers need to be able to design reinforcement contingencies for children who engage in high rates of coercive and aggressive behaviour.

Punishment

In some cases a child's noncompliance may continue to generate at least some positive or negative reinforcement. For example, the child may continue to confront adults on some occasions and to be negatively reinforced when the adult backs away from the confrontation. If this is the case some form of punishment contingency may be required.

In general there are two types of punishment contingency. The first are Type 1 punishment contingencies (Cooper, Heron & Heward, 1987) which are directly aversive to

the child, such as spanking (e. g. Roberts, 1988). Secondly, there are Type 2 punishment contingencies such as time out and response cost (Cooper, Heron & Heward, 1987).

The use of Type 1 punishment contingencies, is not viable for two reasons. First, as Patterson (1982) points out, most children who display high rates of antisocial behaviour have received more than their fair share of physical punishment already. Secondly, these forms of punishment are widely viewed as quite inappropriate in a preschool setting. In New Zealand a number of Ministry of Education guidelines specifically ban the use of such procedures.

For ethical and legal reasons the punishment contingencies used with children in educational settings are almost always Type 2 punishments (Cooper, Heron & Heward, 1987). For younger children the punishment used usually involves the introduction of a time out procedure, which seldom involves the exclusion of the child from the setting he or she is in. However, this approach also meets with implementation problems in preschool settings. The Ministry of Education Early Childhood Unit, and the Kindergarten Senior Teachers all strongly advise against the use of time out procedures of any kind, and forbid those that involve excluding the child from the setting she or he is in. The reasons for such a blanket ban are not clear. For older children it is usually the loss of a preferred activity or response cost. For this latter group it is usually too difficult to implement a time out procedure as it may be physically impossible to get the child to the time out space.

A number of studies have demonstrated the effectiveness of time out as a procedure for decelerating antisocial behaviour in young children. Wahler, Winkel, Peterson and Morrison (1965) and Wahler (1969) successfully used time out procedures when DA alone was unsuccessful in reducing severe noncompliance in preschool children. Clark, Rowbury, Baer and Baer (1973) used intermittent and continuous time out schedules to control the disruptive behaviour of a preschool child who had a severe intellectual disability. They found that both continuous and some intermittent schedules functioned to decelerate the target behaviour. McGuffin (1991) analysed the relative effects of the length of time out to reduce the aggressive behaviour of children aged between 4 and 12 years. He used 1, 5, 10, and 20 minute time out durations and discovered that while all worked, the most

effective duration was the five minute period. Delayed time out was also found to be effective in reducing the disruptive behaviour of a nine year old boy when instructions alone failed to work (Ramp, Ulrich & Delaney, 1971). In this case the disruptive behaviour was eliminated by the use of a light on the subject's desk which represented the loss of free time later in the day. Roberts (1988) examined the effects of spanking and a room time out on 18 noncompliant preschool children who refused to remain on a time out chair. One group of children was spanked if they refused to remain in the time out chair. The other group was removed to a time out room for one minute if they left the chair. Both procedures produced compliance acquisition with less disruption resulting from the use of the exclusionary time out procedure than was the case with spanking. Roberts concluded that his data, coupled with ethical considerations, favoured the use of an exclusionary time out procedure over physical punishment.

Robert's experiment highlights the difference between two different time out procedures. Very often, time out is associated with removing the child from the setting which they are in. This may not be necessary for very young children. Porterfield, Herbert-Jackson and Risley (1976) compared the effect of an inclusionary time out procedure with redirection for the treatment of disruptive behaviour in a day care centre. The inclusionary time out procedure, called "sit-and-watch", involved removing the child to the edge of an activity at the onset of disruptive behaviour. After a brief period of time the child was invited to re-join the activity. The redirection procedure involved instructing the child then distracting or redirecting him/her to an alternative toy or activity. The authors of this experiment report that the inclusionary time out procedure was much more effective in reducing disruptions than the more traditional redirection procedure.

Another punishment contingency used to decelerate inappropriate behaviour is response cost. Response cost is often used with older children who would be too difficult to remove to a time out situation if they refused to go of their own accord. This procedure, usually run in conjunction with a token reinforcement system, involves removing reinforcers, or proportions of them, in response to inappropriate behaviour from the child. Iwata and Bailey (1974) reported that the application of a token reward plus token cost

procedure with primary-aged children functioned to decelerate both rule violations and off-task behaviour. Pfiffner, O'Leary, Rosen and Sanderson (1985) compared the effects of continuous and intermittent verbal reprimands and response cost on the off-task behaviour of young children with behaviour problems. The results showed that all four interventions significantly reduced off-task behaviour, with the continuous response cost procedure producing the greatest reduction.

Clearly, Type 2 punishment contingencies work. They can produce significant changes in the behaviour of children where other procedures do not. As Patterson (1982, p. 113) puts it: "Punishment works. Its effectiveness is experienced by one and all. In fact, most members of our culture are unaware of any other mechanism for bringing about behaviour change".

He also notes that most parents of young children seem able to apply reinforcement and time out procedures effectively, and where this is done, close to a 100 per cent success rate is achieved in reducing antisocial behaviour. For this reason, instruction in the use of inclusionary time out procedures was included in the training programme designed for the present research. Exclusionary time out procedures were not taught because they are prohibited in New Zealand kindergartens.

Social Skills Training

All of the procedures described so far have assumed that the child is able to perform the behaviour that is expected of him or her by adults. Sometimes the successful management of the child's antisocial behaviour reveals important social learning deficits; the child simply does not know how to perform the appropriate social behaviour (Church, 1996; Walker, Colvin & Ramsey, 1995; Webster-Stratton & Herbert, 1993). If this is the case, the child must first be taught the appropriate behaviour, have it modelled by adults and other children, have plenty of opportunities to practise it, and have it reinforced when it is used (Webster-Stratton & Herbert, 1990). According to Webster-Stratton and Herbert (1993) there are two basic approaches which have been used in order to train children with

deficits in social behaviour. The first attempts to train the child in target social behaviours based on identified social skills deficits using behavioural control strategies. The second uses cognitive-behavioural methods, such as problem solving and self-statements, in addition to the more traditional behavioural methods of modelling, role-play, verbal instruction, practice, and feedback. While both methods have had some success Webster-Stratton and Herbert argue that there is a lack of information about the generalisation of newly learned skills into different settings and whether or not the long-term effects of such programmes are maintained.

Learning deficits of the types mentioned are usually remedied in an incidental manner "in situ" as the need arises (Walker, Colvin & Ramsey, 1995). An example from the writer's own experience involved teaching a four year old boy how to line up when waiting to use a particular piece of equipment in a kindergarten. As the only child in his family he had never been required to wait in order to use toys or other equipment and did not know that he was required to do so or how to do it. He was taught to do so by the kindergarten teacher who initially modelled the behaviour, stood with him in the line, and reinforced him when he got to the front of the line. The teacher gradually withdrew the prompts until the child was able to join the end of a line and wait his turn.

When analysing the behaviour of young children who display high rates of antisocial behaviour, it may be necessary to check that the child knows how to perform the desired response (Campbell, 1995; Church, 1989; Walker, Colvin & Ramsey, 1995). If this is not the case, it will be necessary to teach the missing skill before anything else is done. It is for this reason that procedures for teaching social skills to young children were included in the training programme devised for the present research.

Summary of Treatment Procedures

The treatment procedures needed to remediate the noncompliant and antisocial behaviour of young children with behaviour disorders are not always clear and simple. The treatment which is likely to be effective may depend upon a number of factors such as the

age of the child, the nature of the problem behaviour, the skills which the child has acquired, the ability or willingness of the caregiver to implement the treatment procedures, and the restrictions which apply to the use of certain kinds of procedures. However, as Dumas (1989) argues, any therapy which is used in this regard must seek to establish prosocial behaviours in the place of antisocial behaviours and establish a shift in social contingencies such that the child's prosocial behaviours gain positive parental reinforcement and their antisocial behaviours are consistently punished.

As preschool children with behaviour disorders may display antisocial behaviour of varying rates and severity, kindergarten teachers need to be able to systematically monitor the behaviour of these children and to have a sufficient repertoire of skills to enable them to exercise the appropriate treatment option in each individual case. They need to know when a procedure is likely or unlikely to work, what to use instead, and what to do if it does not work (Gelfand, Jenson & Drew, 1988; Langley, 1991; Walker, Colvin & Ramsey, 1995). For this reason, the training programme designed for the present research included training in procedures for monitoring the behaviour of children, making decisions about the treatment procedure that may be most appropriate for any particular child, and applying the various treatment procedures included in the programme.

The Maintenance of Prosocial Child Behaviour

If children with behaviour disorders are to maintain prosocial behaviours several important environmental conditions must be met. First, certain stimuli must be established as discriminative stimuli for the prosocial behaviour by differentially reinforcing the child's appropriate responses to those stimuli (Dumas, 1989; Mayer, 1995; Rose, 1994). For instance, if the teachers want to establish a "hand clap" as the discriminative stimulus for the children to come to the mat, they must reinforce the children when they respond appropriately to that stimulus and come to the mat (Mayer, 1995).

Secondly, once the desired behaviour has been acquired by the child, the teacher must set up a situation in which the child can practise the prosocial behaviour, and where the

reinforcement generated by the prosocial behaviour is greater than the reinforcement generated by antisocial behaviour (Mayer, 1995; Patterson, 1982; Walker, Colvin & Ramsey, 1995). If the old, inappropriate behaviours continue to be reinforced at their previous rates it is unlikely that these behaviours will be supplanted by the newly acquired appropriate behaviours, despite these new behaviours generating greater reinforcement than on previous occasions. The child must be given the opportunity to use their new prosocial behaviours in the settings in which those behaviours are most appropriate, and the behaviours must generate sufficient reinforcement to motivate their continued use (Campbell, 1995; Dumas, 1989; Mayer, 1995; Patterson, 1982; Walker, Colvin & Ramsey, 1995).

Thirdly, the reinforcement for social behaviour must occur in a "natural" fashion in order to avoid the need for a specific treatment programme for maintenance in addition to that needed for the acquisition of the new prosocial behaviours (Bernstein, 1982; Dumas, 1989). For children with behaviour disorders strong primary reinforcers, delivered on a fixed interval or ratio schedule, may be required in order to initially motivate the desired response, however such reinforcers should be paired with appropriate social cues and social reinforcers during the initial part of the treatment programme. This enables the stronger reinforcers to be faded and movement to a more intermittent schedule of delivery once the inappropriate behaviour of concern has been brought under control (Cooper, Heron & Heward, 1987).

Accomplishing these goals for young behaviour disordered children attending kindergarten is difficult for several reasons. Many normal events in the kindergarten, which function as reinforcers for most children, may not initially function as reinforcers for this group of children (Church & Langley, 1989; Patterson, 1982; Patterson, DeBarysche & Ramsay, 1989). For example, a smile or a word of praise from the teacher functions for most children as a positive reinforcer, however these events may not have acquired conditioned reinforcing properties for children with behaviour disorders.

A similar analysis can be applied to the way in which children with behaviour disorders react to negative reactions. Frowns and reprimands, which serve to reduce

inappropriate behaviour in most children, may have little or no effect for children with behaviour disorders (Patterson, 1982).

A fourth reason why it is difficult for young children to maintain newly learned prosocial behaviour is because many of the coercive behaviours that behaviour disordered children perform continue to generate both positive and negative reinforcement (Patterson, 1976; Patterson, 1982). They may be reinforced positively when teachers react to tantrums by giving the child what he or she wants, and they may be negatively reinforced when the teacher reacts to tantrums by withdrawing task demands. If maintenance of appropriate social behaviour is to occur the teachers must continue to reinforce the prosocial behaviour and punish the antisocial behaviour at rates which enable the appropriate behaviour to be maintained by the child.

A fifth reason why prosocial behaviour in young behaviour disordered children does not always maintain is because the antisocial behaviours have often been strengthened on intermittent schedules and, as a result, have become highly resistant to extinction (Patterson, 1982). This is a most difficult problem to overcome. In order to replace the antisocial behaviour with prosocial behaviour it is necessary to reinforce it with a strong reinforcer on a more continuous schedule. This is both intense and demanding for the teachers. If the fading process is not carried out very gradually, systematically, and with continual monitoring of the behaviour, there is a high chance that the newly learned behaviours will be ones which are less resistant to extinction than the coercive behaviours which they are supposed to replace.

A final reason why newly acquired prosocial behaviour is not always maintained in young children is due to a lack of across-setting consistency in the implementation of the procedures (Stokes & Baer, 1977). For example, if certain prosocial behaviours are taught and reinforced in the educational setting but are not taught or reinforced in a similar fashion in the home setting, the new behaviours may not be maintained. This is particularly so for behaviours which are relevant to both settings (Campbell, 1995).

To summarise, there appear to be five conditions which must be met if maintenance is to occur. First, instructions and cues must be established as discriminative stimuli for

appropriate behaviour by differentially reinforcing appropriate responses to these cues. Secondly, social cues must be established as conditioned reinforcers by pairing them with stronger primary reinforcers in the initial part of the treatment programme. Thirdly, prosocial behaviour must continue to generate more reinforcement than antisocial behaviour. Fourthly, newly learned prosocial behaviour must be well established, and the reinforcers used during training faded very slowly if new responses are to be maintained. Finally, it is necessary to try to develop across-setting consistency in the implementation of treatment programmes.

It is for these reasons that the training programme designed for the present research included the requirement for teachers to identify and target age-appropriate demands to the behaviour disordered children, to monitor the children in order to establish whether or not the child had already acquired the desired prosocial behaviour (and to include provision for teaching this if it was necessary), to establish clear and consistent social cues when making these demands for the children, and to differentially reinforce appropriate responses from the children with primary reinforcers. The training procedures also included a provision for the teachers to pair the delivery of the primary reinforcers with social reinforcers to enable the fading procedure to take place once the newly acquired prosocial behaviours had become well established in the children.

CHAPTER FOUR

TRAINING PROGRAMMES AND PROCEDURES

Professionals who have attempted to train parents and teachers to better manage the antisocial behaviour of children with behaviour disorders have used a variety of training procedures. The next question to be addressed is whether certain training procedures are more effective than others in teaching child behaviour management skills.

Method

The following procedure was used to locate experimental studies up to, and including, 1992, which involved the training of parents and teachers to better manage the behaviour of young children.

First, the PsycLit and ERIC databases on CD-ROM were searched using various combinations of the following descriptor words: behaviour disorder, behaviour problems, emotional disturbance, emotionally disturbed, aggressive, violence, acting out, hyperactive, preschoolers, kindergarten children, young children, preschool education, treatment programmes, training programmes, teacher education, and parent education. The experimental studies identified by these searches were listed.

Secondly, reviews of the parent training and teacher training literature were examined and the studies evaluated in the reviews were identified. The following review articles were examined: Berkowitz and Graziano (1972), Bernstein (1982), Graziano & Diament (1992), Merrett and Wheldall (1984), Moreland, Schwebel, Beck and Wells (1982), O'Dell (1974), and Singh, Deitz, Epstein and Singh (1991).

Thirdly, the reference list of a key text in the field (Patterson, 1982) was searched for additional references.

Fourthly, the indexes and contents pages of the following journals were searched for relevant reports: *The Journal of Applied Behavior Analysis, Behavior Therapy, Behavior*

Modification, Behavioral Disorders, The Journal of Teacher Education, and Education and Teacher Education.

Fifthly, the reference list of each relevant report was examined and any additional studies of relevance were noted.

While it is not claimed that this strategy located every possible study that may have warranted inclusion, it appears to have identified the great majority of the published experimental evaluations of adult training in child management.

Criteria for Inclusion

The aim of the search was to identify experimental analyses of the effects of training adults to better manage the behaviour of young children. For this reason, the review was limited to experiments in which the children were six years of age or younger, or where the sample included children of this age.

Secondly, the review was limited to experiments where the children were known to exhibit significant behaviour problems. Studies of children who had other significant handicapping conditions in addition to behaviour problems were not included.

Thirdly, the review was limited to experiments in which parent or teacher behaviour was directly observed, recorded and reported.

Fourthly, the review was limited to experiments where the training methods used for parents and teachers were described either in the current study or a previous one. A number of studies did not specifically describe the training programme within them but referred to other sources where such a description could be found.

Data Analysis

Each of the studies included in the review was examined to identify (a) the referral procedure used, (b) the experimental design employed, (c) the components and type of training delivered, (d) how the data relating to the behaviour of the parents, teachers and children was recorded, (e) the independent and dependent variables being tested, (f) the

changes in both parent and child behaviour generated by the training, and (g) any data presented on the maintenance of newly acquired skills.

The results of each experiment were analysed by calculating the degree of change in parent or teacher behaviour between phases of the experiments. This was done in one of two ways. Some experiments reported the data for individual parents or teachers and presented it on a graph. These tended to be the experiments using within subject designs. For these experiments quarter-intersect trend lines (Cooper, Heron & Heward, 1987; Liberty, 1984) were drawn for each phase of the experiment. Immediate effects were calculated between each consecutive phase of the experiment. At the point where the trend line for the first of the two phases being compared met the phase change line at the beginning of the second of the two phases, a horizontal line was plotted to intersect with the Y axis and the point of intersection noted. Where the trend line for the second of the two phases met the next phase change line at the beginning of that phase another horizontal line was plotted to the Y axis and the point of intersection noted. It should be noted that in all cases the Y axis was a measure of response frequency. The next step was simply to divide the second point of intersection by the first point of intersection in order to calculate the effect size.

In cases where the frequency of the behaviour in the treatment phase was greater than that in the baseline phase the immediate effect calculation was depicted by a x symbol. Where there was a decrease a ÷ symbol was used. Thus, a notation of x 2.00 indicates that the adults use of a particular behaviour has doubled. A notation of ÷ 2.00 would indicate that the use of a behaviour has declined to one half of its pre-training frequency.

Where the experiments results were reported as group means the larger experimental group mean was divided by the smaller as before and the result expressed in the same way.

Where more than one phase change occurred, the procedure was repeated by calculating the change against the previous phase. For instance, in cases where maintenance data was reported the effect was compared with the effect in the preceding training phase.

According to Liberty (1984) the overall impact of any treatment intervention can only be said to be successful if the magnitude of that impact is greater than + or - 50 per cent of

the baseline levels of that behaviour. Liberty argues that a change of less than this magnitude is likely to encompass the normal variability of the subject's performance and may not, therefore, be due to any intervention which may have been implemented.

In the experiments reviewed in this chapter a clear and consistent means of determining what consisted successful training of parents and teachers was not always possible as some of the experiments were group studies while others presented data on the performance of individuals. An additional problem was that some of the studies which presented data on individuals often varied in terms of the magnitude of the change across those individuals, making any general statement about the effectiveness of any particular type of intervention problematic. In order to develop some consistency for the systematic classification of the studies several guidelines were used. In studies where the data on individuals was reported those which were judged to be successful had to produce increases in the desired management behaviours of x 2.0 or greater, or reductions in the undesirable management behaviours of 2.0 or greater (Liberty, 1984). In studies which reported data on several subjects, some of whom achieved the required level and some who did not, the training was judged successful if at least 80 per cent of the subjects had achieved the desired changes. The studies which reported group data had to achieve an overall group effect size of at least 0.5 in order to be judged to be successful. The effect size was calculated by dividing the difference between the control and treatment group means by the standard deviation for those groups in the study. Given the variability which can occur within groups, a change in behaviour of + or - 50 per cent was selected as the minimum indication of improvement for the group (Church, 1996).

It is fair to say that the classification system adopted for making judgements about the success or otherwise of the training programmes in the present studies was by no means perfect. However, it must be remembered that these studies covered a 30 year time span, used different methods for collecting and reporting their data, and used combinations of individual subjects, a number of individual subjects, or groups. As a result it was not possible to utilise a classification system which was suited to all of the studies, but rather one that was able to provide more general guidelines.

Results

The search described above located 24 reports which met the criteria for inclusion. Two of the reports contained more than one experiment within them. Twenty two of the studies described the training of parents and two described the training of teachers of young children. Twelve of the studies used within-subject designs and twelve used group designs. Table 1 describes the way in which the studies were coded. A summary of the 24 studies is presented in Table 2.

Table 1

The classification procedure used in analysing the methods and results of the 24 training studies.

Column Title	**Code**	**Term**	**Definition**
Author	as stated	as stated	as stated
Referral procedure	SR	Self Referral	Ss referred themselves
	AR	Agency referral	Ss referred by another agency
	V	Volunteer	Ss responded to request
	A	Referral plus assessment	Ss underwent some form of assessment following referral
	O	Referral plus observation	Ss underwent some form of observational assessment following referral
Design	WS	Within subject	Individual behaviour change monitored and reported
	GD	Group design	Group behaviour change monitored and reported
Dependent Variable (parents/teachers)	as stated	as stated	as stated
Measurement setting	Cl	Clinic	Observations in a clinic
	He	Home	Observations in the home
	Sc	School	Observations in the school
Measurement Procedure	INT(x)	Interval recording	Interval recording using X second intervals
	TS(x)	Time Sampling	Time sampling using X interval samples
	DCS	Defined Coding System	A specific coding system
	VP	Video probes	Ss videoed and observed
	RP	Role play probes	Ss observed in role play situation

Table 1 continued...

Training Setting	CI	Clinic based	Training took place in a clinic setting
	He	Home based	Training took place in a home setting
	Sc	School based	Training took place in a school setting
Training Procedure (Components)	Pr	Prompts	Ss told what to do and when
	E	Explanations	Ss had procedure explained and asked to do it
	K	Knowledge	Ss given instruction in the principles of child management
	R	Rehearsal	Ss role played the skills
	Pe	Practice	Ss practised the skills with the target child
	F	Feedback	Ss given feedback on their performance

Subjects

In all of the studies in the present review the subjects of the studies were parents or teachers who were responsible for a young child who was proving difficult for them to manage. In four of the studies the subjects were parents or teachers who had been referred by a primary agency such as a kindergarten, general practitioner, or paediatrician. In three studies the subjects were parents who had responded to advertisements. In two studies the subjects included a mixture of self-referrals and agency-referrals. In five studies the subjects were screened by the experimenters following their self-referral or referral by an agency. The subjects were screened to exclude for factors such as distance from the training venue, access to the home for observation, or the presence of other handicapping conditions.

In only two cases (Lowry & Whitman, 1989, and Weinrott, Bauske & Patterson, 1979) did the experimenters apply a direct observation screening procedure to the behaviour of the children concerned. In one case (Weinrott, Bauske & Patterson, 1979) the interactions of the parents were also observed as a means of assessing the subject's suitability for training. The diagnosis of the subject's child as a child with a serious behaviour problem or behaviour disorder was checked by very few of the experimenters.

Table 2

Experimental Studies of Parent and Teacher Training Programmes

		Measurement			*Results*		
Author(s)	**Subjects**	**Training Programme**	**Design**	**Recording**	**Dependent Variable(s)**	**Immediate**	**Maintenance**
Budd, Green & Baer (1976)	1 mother AR	106 Sessions ranging from 5 to 25 min 1-6: Baseline 7-11: Ss told to reduce repetitions 12-14: Ss told to wait 5 seconds after inappropriate behaviour before giving new instructions 15-22: S told to reduce physical interventions to effect compliance 22-23: S told to give initial instruction and praise only after compliance 27-106: S told to use time out for non-compliance after 20 seconds. PrPeF	WS	Cl INT(10)	1. Repetition of instructions 2. Physical interventions 3. New instructions following appropriate behaviour 4. Tangents 5. Time out	1. ÷ 77.78 2. ÷ 2.66 3. ÷ 6.00 4. ÷ 38.89 5. x 72.22	No data
Cooper, Thomson & Baer (1970)	2 preschool teachers AR	Feedback provided to teachers about their success in attending to appropriate child behaviour. Four types of feedback: behaviour definition, success frequency, rate, and failure frequency. KPeF	WS	Sc INT (10)	1. Attention to appropriate behaviour	1A. x 2.00 1B. x 1.19	After 1 Week A ÷ 1.19 B ÷ 1.04
Forehand & King (1977)	11 mothers AR	Each mother-child dyad trained individually. Twice weekly training sessions. For about 5 weeks. Mothers taught to become more effective reinforcing agents while engaged in play with their children. EPeF	GD	Cl DCS	1. Rewards 2. Commands not questions	1. x 7.83 2. ÷ 5.00	After 3 months 1. x 1.21 2. x 1.25

Forehand, Griest & Wells (1979)	27 families AR	Families trained individually. Ten sessions of about one hour covering data gathering, modelling, discussion, and practice with a bug in the ear. Treatment programme has 2 phases: reinforcement and use of rewards, and time out. KRPeF	GD	Cl DCS	1. Rewards 2. Contingent attention 3. Beta commands	1. x 3.20 2. x 4.97 3. ÷ 1.43	No data
Forehand, Sturgis, McMahon, Aguar, Green, Wells & Breiner (1979) (2 exps.)	*Exp. 1* 10 mothers SR AR	As for Forehand, Griest, & Wells (1979) KRPeF	GD	Cl DCS	Parents 1. Rewards 2. Beta commands 3. Alpha commands 4. Contingent attention	Parents 1. x 3.40 2. ÷ 1.80 3. ÷ 1.13 4. x 4.50	Mainten I 1. ÷ 1.23 2. x 1.40 3. ÷ 1.25 4. ÷ 1.29
	Exp 2 8 mothers AR	As for Forehand, Griest, & Wells, (1979) KRPeF	GD	He, Sc DCS	5. Rewards 6. Beta commands 7. Contingent attention	5. x 3.73 6. ÷ 2.11 7. x 4.83	Mainten II 1. ÷ 1.04 2. ÷ 1.27 3. ÷ 1.43 4. ÷ 1.40
Herbert & Baer (1972)	2 mothers AR	Mothers given a wrist counter and written instructions about counting their attention to appropriate behaviour. Number of sessions not stated. Training took place over 21 days. PrPeF	WS	Cl	1. Attention to appropriate behaviour	Parent 1: x 1.41 Parent 2: x 1.16	No data
Isaacs, Embry, & Baer (1982)	5 trainees and parents SR	Training in three parts: 1. Initial training of 2, 2.5 hour sessions including briefing, instruction, presentation of video tape models and rehearsals. 2. Feedback where the experimenter met with trainee 15 minutes before and after sessions to discuss results. 3. Interaction sessions where the trainee discussed approaches with parents. KRPeF	WS	Cl TS (10)	1. Attention to compliance 2. Attention to non-compliance	1A x 1.18 1B x 2.14 1C x 1.50 1D x 1.36 1E x 1.07 2A ÷ 2.00 2B ÷ 2.83 2C ÷ 2.83 2D ÷ 9.00 2E ÷ 1.67	No data

Kelly, Embry & Baer (1979)	Mother and Father SR	Parents given a series of chapters describing child management skills, with study guides and worksheets. Experimenter then gave feedback on the use of skills. Past session evaluations held to discuss generalisation. Approximately 20 sessions were held. KPeF	WS	He TS (10)	1. Attention to inappropriate behaviour. 2. Attention to appropriate behaviour. 3. Appropriate instructions. 4. Attention to compliance. 5. Attention to non-compliance.	1. ÷ 1.97 2. x 1.29 3. x 5.00 4. x 1.70 5. ÷ 1.75	
Knapp & Deluty (1989)	40 mothers V	Two training groups: 1 Role play group. Tight sessions containing discussion, demonstration, role play, practice, and homework. 2. Discussion group. Eight sessions, containing discussion, revision, reading, tests and homework. KRPeF	GD	Cl DCS	1. Positive parent behaviour in Lower and Middle SES mothers	Lower Roleplay x 2.16 Lower Discussion x 1.08 Middle Roleplay x 2.02 Middle Discussion x 1.75	No data
Lowry & Whitman (1989)	5 mothers AO	Nine, 45 minute sessions. The first six consisted of a skill building phase where mothers were instructed on the use of prompts and rewards. The final three emphasised generalisation and maintenance. KPeF	WS	Cl TS (5)	Training: 1. Material activity 2. Prompts 3. Rewards 4. Other verbalisation Generalisation: 5. Material activity 6. Prompts 7. Rewards 8. Other verbalisation	 1. x 1.12 2 x 1.15 3. x 2.29 4. x 1.22 5. ÷ 1.06 6. ÷ 1.29 7. x 1.64 8. x 1.03	After 6 months 1. ÷ 1.05 2. ÷ 1.10 3. ÷ 1.13 4. ÷ 1.15 5. -- 6. ÷ 1.09 7. ÷ 1.33 8. ÷ 1.14

Peed, Roberts & Forehand (1977)	12 mothers V	Mothers assigned to treatment or control group matched for socio-economic and geographic characteristics. Treatment setting was a clinic. Training consisted of two phases: 1. Reinforcement phase where mothers were taught to give more effective reinforcement and contingent use of rewards. 2. Time out phase where the mothers were taught to use time out. Sessions lasted about one hour and consisted of discussion, modelling practice, data gathering and feedback. About 10 sessions were held. KRPeF	GD	Cl He INT (60)	Clinic: 1. Attends 2. Rewards 3. Questions 4. Beta commands 5. % contingent attention Home: 6. Attends 7. Rewards 8. Questions 9. Beta commands 10. % contingent attention	Treatment gp 1. x 9.17 2. x 6.0 3. ÷ 2.67 4. ÷ 1.50 5. x 5.50 6. x 2.50 7. x 2.5 8. ÷ 1.25 9. ÷ 1.50 10. x 2.67 Control gp 1. ÷ 2.0 2. x 1.5 3. ÷ 1.09 4. ÷ 1.20 5. ÷ 1.00 6. x 1.2 7. x 0.00 8. x 1.67 9. x 1.13 10. ÷1.50	No data
Reisinger (1982)	4 sets of parents Mothers only trained AR	Clinic sessions held for mothers and children. Twenty-five training sessions of 20 minutes in duration. Trainer and parent selected toys for the child. Mothers instructed in ways to interact and given feedback following sessions. Fathers not trained. PrPeF	WS	Cl He INT (10)	Clinic: 1. Attention to appropriate behaviour. 2. Attention to oppositional behaviour. Home: 3. Attention to oppositional behaviour. 4. Father's attention to oppositional behaviour.	Clinic 1. x 2.25 2. ÷ 3.67 Home Mothers 3. ÷ 55.56 Fathers 4. ÷ 1.0	No data

Reisinger, Frangia & Hoffman (1976)	6 mothers SR AR	Mothers assigned to two groups. A- no perceived marital problems B - perceived marital problems Trainer selected 10 toys. Mothers told to have their children play with the first toy then change every two minutes when they received a pre-arranged signal. PrPeF	GD	Cl He INT (10)	1. Attention to cooperative behaviour. 2. Attention to oppositional behaviour.	Group A 1 x 2.0 2 x 2.0 Group B 1 ÷0.2 2 ÷0.2	No data
Rickett, Sottolana, Parish, Riley, Hunt, & Pelco (1988)	8 parents VAS	A six week programme using a didactic format. First three weeks involved lectures, modelling, and role play. The last three weeks involved competency based instruction. KRPe	WS	Cl VP	1. Giving instructions. 2. Use of time out.	1. Parents a. x1.43 b. x1.67 c. x1.29 d. x1.43 e. x1.80 f. x1.60 g. x1.75 2. Parents a. x1.23 b. x1.25 c. x1.67 d. x1.25 e. x1.13 f. x1.80 g. x1.40	No data

Sanders (1982)	Experiment 1 2 families V	Three phases were introduced sequentially with both families. A. baseline B. instructions - no feedback C. instructions and feedback PrPeF	WS	He INT (20)	1. Attention to appropriate behaviour. 2. Attention to deviant behaviour.	*Exp. I* Family 1 1B 0 1C x1.66 2B ÷ 3.75 2C ÷ 8.00 Family 2 1B 0 1C x11.50 2B ÷ 5.56 2C ÷ 2.33	No data
	Experiment 2 2 families (not those in Exp. I)	Four phases were introduced sequentially with both families. A. baseline B. instructions - no feedback C. cueing - no feedback D. feedback alone PrPeF	WS	He INT (20)	1. Attention to appropriate behaviour 2. Attention to deviant behaviour	*Exp. II* Family 3 1B 0 1C x 1.35 1D x 3.29 2B. ÷ 1.59 2C ÷ 3.33 2D ÷ 5.56 Family 4 1B x 3.3 1C x 12.67 1D x 1.47 2B ÷ 4.4 2C ÷ 10.00 2D 0	No data
Scott & Stradling (1987)	77 mothers AR	Mothers assigned to a programme group. Training programme of seven 90-minute sessions ran for five to eight mothers at a time. The first six sessions dealt with standard child management techniques. Session seven, one month later, dealt with maintenance and deterioration issues. KRPeF	GD	Cl Roleplay test using frequency count.	1. Encouraging attention to appropriate behaviour and dealing with tantrums.	Treatment group x 1.55 Control group x 1.05	No data

Taplin & Reid (1977)	25 families AR and O	Parent training programme carried out in the homes of the families. KRPeF	GD	He DCS	1. Aversive consequences for deviant behaviours. 2. Positive consequences for deviant behaviour. 3. Aversive consequences for positive behaviour. 4. Positive consequences for positive behaviour.	Fathers: 1. x 2.40 2. ÷ 1.38 3. ÷ 1.14 4. x 1.23 Mothers: 1. ÷ 1.75 2. ÷ 1.17 3. ÷ 1.50 4. x 1.17	No data
Wahler (1969)	Parents of 2 boys SR	Two sets of parents were given four and seven 30 - 65 minute sessions on the use of differential attention (DA) and time out (TO). They were given a brief explanation of reinforcement theory and instructed to use DA (Int 1) and TO (Int 2) with their oppositional boys during two intervention phases. EPeF	WS	He INT (10)	1. Parental instructions followed. 2. Attention following oppositional behaviour. 3. Attention following child approaches.	Family 1 Int 1 x 4.5 Int 2 x 5.3 Family 2 Int 1 x 5.8 Int 2 x 3.1 Family 1 Int 1 ÷4.0 Int 2 ÷35.9 Family 2 Int 1 ÷3.3 Int 2 ÷31.1 Family 1 Int 1 x 4.3 Int 2 x 13.3 Family 2 Int 1 x 4.1 Int 2 x 10.0	No data

Wahler (1980)	14 mothers SR	Families were trained individually by a graduate student. There were five parts to the training: 1. Baseline data discussed with mothers and told how it related to parents responses. 2. Lecture on coercion trap. 3. Means of avoiding coercion trap: (a) point reward system, (b) use of time out contingency. 4. Parents explained point system to the child and began to use it under the eye of the trainer. 5. Implementation with less trainer involvement. KRPeF	GD	He INT (10)	1. Oppositional behaviour 2. Social interaction	1. x 0.95 2. x 1.02	After one year 1. x 1.06 2. x 0.96
Ward & Baker (1968)	3 teachers of first grade children. SR and AR	Series of four, weekly seminars discussions with the three teachers. Included information on reinforcement, punishment, and literature of relevance. Then six 30-minute treatment periods where the experimenters controlled a signal light on the child's desk which was used as a reinforcer for task relevant behaviour. KPeF	GD	CL, Sc INT (30)	1. Teacher attention to task relevant behaviour.	1. x 1.23	No data
Webster - Stratton (1984)	35 mothers AR and SR	Parents assigned to three groups: control, individual therapy, and videotape modelling group therapy. Both training programmes were made as similar as possible. First four weeks focussed on interpersonal procedures, last five on personal procedures. Parents attended between 8 and 9 sessions (15 to 17 hours). Individual therapy group consisted of one to one with the experimenter - discussion, role plays, feedback. Videotaped modelling group was also experimenter led but based on 180 video vignettes. KRPeF	GD	Cl DCS	1. Commands 2. Command ratio 3. Critical statement 4. Praise	Individ. Therapy 1. ÷1.08 2. ÷1.04 3. ÷1.32 4. x 6.47 Videotape modelling 1. x 1.41 2. ÷ 1.13 3. ÷ 2.51 4. x 4.10	After 1 year ÷ 1.17 ÷ 1.06 ÷ 1.47 x 1.27 x 1.01 ÷ 1.12 x 1.35 x 0.79

Webster-Statton, Kolpacoff & Hollins-worth, (1988)	114 families AR and SR	Parents were randomly assigned to one of four groups: Group discussion and videotape modelling (GDVM), individually administered videotape modelling (IVM), group discussion training (GD), and control. Content, sequencing, and number of sessions were kept constant. 10 to 12 sessions were held. These focused on interactions, promises and rewards, and non-punitive discipline. KRPeF	GD	Cl DCS	1. Criticisms 2. Praise 3. Positive affect	GDVM Mother 1. ÷ 1.39 2. x 2.14 3. x 1.07 Father 1. ÷ 2.27 2. x 2.56 3. x 1.07 IVM Mother 1. ÷ 1.73 2. x 1.92 3. x 1.11 Father 1. ÷ 1.86 2. x 3.23 3. x 1.03 GD Mother 1. ÷ 1.53 2. x .54 3. x 1.07 Father 1. ÷ 1.96 2. x 2.01 3. x 1.16	No data
Weinrott, Bauske & Patterson (1979)	18 families AR	Parents met in groups of 3 to 4 families for a 10 week core programme. This consisted of weekly sessions using, video, illustrations, and individual consultation. Daily phone contact maintained with parents. Sessions included: pinpointing, observing and recording behaviour; point incentive systems; time out; evaluation; programme presentation; attending and shaping; problem solving; contracting and fading KRPeF	GD	Cl DCS	Total deviant behaviour and parent responses A First sample, terminated families B First sample, follow-up families C Replication, terminated families D Replication, follow-up families.	A ÷ 2.37 B ÷ 1.83 C ÷ 2.29 D ÷ 2.93	Four months B ÷ 1.02 D ÷ 1.32

Zeilberger, Sampen & Sloan (1968)	Parents of one child AR	Ten sessions were held. The experimenter prompted the mother's responses, provided social approval when she acted correctly and corrective feedback when she did not. PrPeF	WS	He INT (20)	1. Attention following undesirable behaviour.	Treatment 1 ÷ 3.00 Replication 1 ÷ 2.00	No data

Skills Trained

The behaviour management skills targeted for training were similar across the studies. All 24 studies attempted to train some aspect of recognising and attending to appropriate child behaviour coupled with recognising and responding appropriately to inappropriate child behaviour. Twelve of the studies described the specific behaviour change which the training programme attempted to bring about. The management behaviours most commonly targeted for training were: recognising and responding positively to appropriate child behaviour, recognising and confronting inappropriate child behaviour, the appropriate use of reinforcement, changing the kind of instructions used, and reducing the use of physical interventions. Five of the parent training programmes attempted to train time out procedures. Neither of the teacher training programmes attempted to train time out skills.

Two of the studies addressed the issue of how one parent may recognise and reinforce the behaviour change of another. Kelley et al. (1979) observed the attention that each spouse gave the other when trying to manage their five year old son's negative and oppositional behaviour. Reisinger (1982) trained the mothers of four toddlers to deal with the oppositional behaviour of their children. He then observed the fathers to see if there had been any intersubject generalisation. The results show a minimal effect.

Measurement

Only studies which observed parent or teacher behaviour directly were included in this review. Of the 24 studies, 11 used interval recording in which defined behaviours were recorded if they occurred within specific intervals of time. The length of the intervals varied from 10 seconds to 30 seconds.

Nine of the experiments used complex coding systems. Weinrott et al. (1979) and Taplin and Reid (1973) used the Family Interaction Coding System (FICS) described in Patterson (1974). The FICS evolved from numerous trials beginning in the late 1960 s. It

was designed to record the aversive behaviours of family members and the antecedents and consequences associated with them.

The FICS Code consists of 29 categories. A recording is made every six seconds. The observer alternately codes the behaviour of the target child and the person with whom the child is interacting. The recording procedure yields session scores for each category of behaviour and for each family member. These scores are expressed as a rate per minute.

Fourteen of the 29 categories of behaviour are used to calculate a score which Patterson calls the Total Aversive Behavior (TAB) score. The behaviours included in the TAB are: crying, disapproval, dependency (clinging), destructiveness, humiliating, ignoring, noncompliance, negativism, teasing, whining, yelling, physical negative (punching, kicking, and pushing), and command negative behaviours (shouting and bossing). It should be noted that the upper limit of the rate per minute is ten six-second responses per minute for any given subject. As the behaviour is coded in six second blocks it is not possible to differentiate recurrence from duration. A 12 second burst of " whining" is coded as a sequence of two "whines".

Five other studies coded parent-child interactions. Knapp and Deluty (1989) computed two behavioural observation scores from each data sheet: negative child behaviour and positive parent behaviour. Webster-Stratton (1984) used the Dyadic Parent-Child Interaction System. This consists of 29 separate behaviour categories covering parent and child behaviours which are coded as present or absent for each 5 minute observation segment. Wahler (1969) simultaneously recorded the frequency of desirable and undesirable behaviour as well as the parent's attention to each of these kinds of behaviours.

Rickett et al. (1988) used video taped probes in order to determine whether or not parents were using the training methods taught. Scott and Stradling (1987) used a role play test. The parents were placed in a simulated situation requiring them to use various child management skills which they had been taught and had practised.

The direct observation procedures used in these studies represent a major step forward over the self-report and rating scale procedures that were so frequently used to study parent and child behaviour prior to the 1970s.

Training Setting

Parents and teachers were observed in clinic, home, and school settings. Twelve of the studies observed the subjects in clinic settings. Six observed the subjects in a home setting of some kind, and three observed in a clinic setting and followed this up with observations in the home. One (Ward & Baker, 1968) observed in a clinic and school and one (Cooper et al. 1970) observed in the school setting alone.

Two of the studies originate from the Oregon Social Learning Centre (Weinrott et al., 1979; Taplin & Reid, 1977). While the substantive training for this took place in a clinic situation, the parents were required to read a text and complete a series of home exercises based on the material in the text.

One study trained teachers directly in a classroom situation (Cooper et al. 1970). In this study, the training consisted of providing feedback to two teachers about their attention to appropriate and inappropriate behaviour. The experimenters provided four kinds of feedback to the teachers: behaviour definition, local stress frequency, daily rate, and failure frequency. This was the only study involving pre-school teachers.

The setting alone does not appear to have been a significant variable in the various training programmes. Training programmes conducted in clinic and home settings were equally successful in bringing about changes in the management behaviour of the subjects who underwent training.

What may be of significance is the result reported by Peed et al. (1977). In this experiment the parents were trained in a clinic with observations taken in both the clinic and the home. In four out of five behaviours the effect size observed in the home was less than half that obtained in the clinic. This suggests that the effects of clinic training may not always generalise to home settings where it is almost certain that different setting events, stimuli, and reinforcing events will be present. This suggests that if the aim of a parent training programme is for parents to use their newly acquired skills in relevant settings, then perhaps the training would be most appropriate to take place in those settings rather than a clinic.

Training Procedures

The 24 training programmes used combinations of six basic training components. These were prompts, explanations, knowledge, rehearsal, practice, and feedback.

Prompts are commands, cues or instructions given to the subject by the experimenter, and may be verbal, written, or a device such as a flashing light.

The term *explanations* refers to descriptions or reasons which contain a rationale for what is required of the adult subject such as a brief explanation of reinforcement theory before instructing them.

The term *knowledge* refers to the experimenter attempting to teach the subjects about the principles of behaviour management using lectures, videos or study guides covering such topics as observation methods, the theory of reinforcement, and the use of punishment procedures.

The term *rehearsals* refers to opportunities provided by the experimenter to practise the skills being trained before using them on the target child. Usually this involved attempting the skills in a role play situation and receiving feedback either from the trainer or another subject who was also undergoing training.

The term *practice* refers to the adults being given the opportunity to use the skills taught by the experimenters in the "natural" setting. With one exception, all of the experiments required the adult to carry out the practice with a child who exhibited significant behaviour problems in a "real life" situation.

The term *feedback* refers to the practice of telling the parent or teacher about their performance either during or after the practice sessions. All the training procedures included feedback, but it was given in different forms. In some cases it was verbal (Budd et al., 1976), in some cases it involved meetings to discuss the performance of the subjects (Isaacs et al., 1982; Kelley et al., 1979), and in other cases the feedback was given by telephone (Weinrott et al., 1979).

Prompts, Practice, and Feedback. Six experiments (Budd et al., 1976; Herbert & Baer, 1972; Reisinger, 1982; Reisinger et al.; 1976, Sanders, 1982., and Zeilberger et al., 1968) used a combination of prompting, practice, and feedback (PrPeF). This involved the adults being given instructions in controlled settings, carrying these out, and receiving feedback during or after the session. Zeilberger et al. (1968) organised ten training sessions with the parents of a four year old boy. The experimenter cued the mothers' responses, provided social approval when she acted correctly, and corrective feedback when she did not. Both treatment phases reduced the mother's attention to inappropriate behaviour by ÷ 3.00 and ÷ 2.00.

Four of the five experiments that used PrPeF training produced large immediate changes in parent behaviour. Budd et al. (1976) managed to reduce repetition of instructions by ÷ 77.78 and increase the parent's use of time out by x 72.22. Similarly, Reisinger (1982) and Reisinger et al. (1976) were able to reduce the attention of mothers to the oppositional behaviour of their children by ÷ 55.56 and ÷ 8.0 respectively. Sanders (1982) was able to increase the attention of some parents by up to 12.67 times and reduce attention to inappropriate behaviour by 18.89 times using a combination of prompting and feedback.

Sanders (1982) conducted two experiments which examined the relative effect of instructions, feedback, and prompting. The introduction of instructions on their own had no effect on adult attention to appropriate behaviour in either family. When feedback was added to the instructions both families increased their attention to appropriate behaviour (by x 1.66 and x 11.50 respectively). They also decreased attention to inappropriate behaviour by ÷ 8.00 and ÷ 2.23 times.

Sanders' second experiment compared the effect of instructions with prompting and feedback followed by feedback alone with two further families. The results here were less clear and tended to vary more between the two families. The greatest consistent effect was produced by the prompting and feedback phase where both families significantly improved their attention to appropriate behaviour and decreased their attention to inappropriate behaviour.

It can be concluded that the combination of prompts, practice, and feedback proved to be a most effective combination in bringing about large improvements in the management behaviour of the subjects who underwent training programmes containing these components.

Explanations, Practice, and Feedback. Two experiments (Forehand & King, 1977; Wahler, 1969) used a combination of explanation, practice, and feedback (EPeF). Wahler (1969) gave the parents of two elementary school boys a brief explanation of reinforcement theory and then instructed them to use a combination of differential reinforcement and time out. No attempt appears to have been made to establish any form of knowledge base in the parents. They were given an introductory explanation and then a series of instructions. This treatment produced large changes in the management behaviour of the two parents. Attention to oppositional behaviour was reduced by ÷ 94.45 while attention to appropriate behaviour increased by x2.30.

The addition of explanations to prompts, practice and, feedback, while also producing positive results, appears to add little to the previous combination of prompts, practice, and feedback alone.

Knowledge, Practice, and Feedback. Four experiments (Cooper et al., 1970; Kelley et al., 1979; Lowry & Whitman, 1989; and Ward & Baker, 1968) used a combination of knowledge, practice, and feedback (KPeF). What commonly happened in these experiments was that the parents were given written material or a lecture covering the basic principles of behaviour management. This was usually followed by a discussion with the experimenters and the implementation of specific principles learned. The knowledge component was similar in all cases and contained the following elements: recognising appropriate and inappropriate behaviour, observing and recording, principles of reinforcement theory, attending to and reinforcing appropriate behaviour, consequences for inappropriate behaviour, and generalisation and maintenance. The Kelley et al. (1979)

experiment included knowledge and parent training in focusing on each other as well as the child.

Experiments which used the KPeF combination produced positive changes but these were not usually as great as the previous combinations. Cooper et al. (1970) produced a x 2.00 and x 1.19 increase in the attention of two pre-school teachers to appropriate child behaviour. Lowry and Whitman (1989) improved the responses of five mothers across five behaviours by between x 2.29 to zero change. Ward and Baker (1968) were able to increase the attention of three teachers of first grade children by x 1.23.

Knowledge, Rehearsal, Practice, and Feedback. The remaining experiments used a combination of knowledge, rehearsal, practice, and feedback (KRPeF). The rehearsal usually took the form of role play before the parents were required to try out the techniques on the target children. The experimenter observed the parent's performance and gave feedback before the parent practised with the child. In all of the programmes where rehearsal occurred it was used as a means of refining skills before practice.

Experiments which used the KRPeF combination yielded variable results. In the experiment conducted by Rickett et al. (1988) one parent showed improvements in their management behaviour of up to 33 times the pre-treatment level. In the remaining studies, the variation ranged from no treatment effect to improvements in adult behaviour of up to five times the pre-treatment phase. Knapp and Deluty (1989) compared the effects of two types of training on two groups of mothers: mothers from middle socioeconomic backgrounds and mothers from lower socioeconomic backgrounds. The two forms of training were: (a) a role play treatment which consisted of discussion, demonstration, role play, practice, and homework and (b) a discussion treatment which consisted of discussion, reading, revision, tests, and homework. Both groups made greater gains during the role play treatment. However, the middle socio-economic mothers made almost as much improvement during the discussion treatment. The mothers from lower socio-economic backgrounds showed no improvement as a result of the discussion treatment.

Experiments using the KRPeF combination yielded results similar to those of the KPeF combination which suggests that substituting knowledge for prompts may not produce the same level of training effect.

However, it is important to note that the experiments which used the KRPeF combination tended to work with larger numbers of adults than some of the other training combinations. Six of the experiments (Forehand et al., 1979; Knapp & Deluty, 1989; Scott & Stradling, 1987; Taplin & Reid, 1977; Webster-Stratton, 1984; and Webster-Stratton et al., 1988) worked with more than 20 individuals or families. In four of those cases (Knapp & Deluty, 1989; Scott & Stradling, 1987; Webster-Stratton, 1984; and Webster-Stratton et al., 1988) more than 30 were trained. The large numbers of adult subjects in these experiments may well have contributed to the variability of the results gained by this combination of training procedures.

Other Training Combinations

Webster-Stratton (1984) and Webster-Stratton et al. (1988) compared the effects of different forms of presentation. In Webster-Stratton (1984) a group of 35 mothers were trained using either individual therapy or videotaped modelling. Individual therapy consisted of one to one training which included discussion, role play, and feedback. Videotape modelling consisted of the same except that the training was based on 180 video vignettes. Over three parent management behaviours the videotape modelling produced significantly greater mean improvements than the individual therapy. Webster-Stratton et al. (1988) compared three forms of presentation. These were group discussion videotape modelling (GDVM), group discussion (GD), and individual videotape modelling (IVM). For both parent criticism and praise, the GDVM combination produced consistently greater mean effects than the other two for the 114 parents who took part. This occurred for both mothers and fathers. One exception was that fathers responded to the IVM combination better in terms of improvement with praise statements.

Reisinger et al. (1976) compared the effects of their training programme on mothers who had no perceived marital problems and those who did. The mothers who had no perceived marital problems showed greater improvements in their attention to appropriate child behaviour than the mothers who had marital problems.

Training of Parents versus Teachers

Two of the experiments (Cooper et al. 1970; Ward & Baker, 1968) targeted the behaviour of teachers. In the first of these (Cooper et al. 1970) the experimenter provided feedback to two teachers of difficult pre-school children over a two week period.

One teacher doubled her rate of attention to appropriate child behaviour. The other showed a minimal increase of x 1.19. A maintenance check after one week showed that even this gain had largely been lost.

In the second study (Ward & Baker, 1968), three teachers of first grade children were given four seminar sessions covering behaviour modification and the programmes of the targeted children. Topics covered included reinforcement, punishment, and literature of relevance. This was followed by six sessions where the experimenters provided immediate in-class feedback. As a result, the teachers' attention to on-task behaviour increased by x1.33.

One feature of these two programmes is that they were relatively short in terms of number of sessions, yet achieved results which were almost as effective, at least in the short term, as many of the parent programmes that were considerably longer. There are two possible explanations for this. Those who already possess some degree of knowledge and skill may require training that is less directive and shorter in duration than those with less knowledge and skill. Conversely, the parents of children with behaviour disorders frequently have fewer child management skills than most other parents and may, as a result, require much more training than teachers do (Patterson, 1982).

Maintenance

Only 7 of the 24 experiments collected data on maintenance, however none of these experiments actually defined what they considered maintenance to be or how they would know if it had been achieved. In all of these studies it is possible to define maintenance in one of two ways. The first is to judge maintenance to have occurred only if the responses of the parents and teachers during the maintenance period were similar to those recorded during the training period. The second is to judge maintenance to have occurred if the responses of the teachers and parents during the maintenance period are sufficient to maintain the behavioural improvements of the target children.

Does maintenance mean that the parents had to keep their newly acquired responses at the training level, or does it mean that they had to keep them at a level to effectively manage the behaviour of the children? For example, if the level of improvement in the parent's responses had reduced over time, but improvements in the behaviour of the target children had been maintained, it could be argued that the parents had maintained their responses at a level which was sufficient to maintain improvements in the behaviour of the children. This is what happened in five of the seven experiments where maintenance data was recorded.

Three of the experiments (Forehand et al., 1979; Wahler, 1980; and Webster-Stratton, 1984) collected follow-up data one year after treatment. The remaining four experiments (Cooper et al., 1970; Forehand & King, 1977; Lowry & Whitman, 1989; Weinrott et al., 1979) collected follow-up data between one week to six months after treatment. Of the seven experiments that collected maintenance data, six reported that the parents and teachers who had been trained had continued to use those skills. In those experiments (Cooper et al., 1970; Forehand & King, 1979; Forehand et al., 1979; Wahler, 1980; Webster-Stratton, 1984; Weinrott et al., 1979) the frequency of the newly acquired responses was generally less than that which had occurred during the period of training but was, despite this, still higher than the frequencies reported during the collection of baseline data. Five of the seven experiments reported maintenance data on the behaviour of the children (Forehand & King, 1977; Forehand et al., 1979; Wahler, 1980; Webster-Stratton, 1984; Weinrott et al., 1979).

In all five of those experiments the improvements in the behaviour of the children which had occurred during the treatment phase of the experiments had, by and large, been maintained. This had occurred despite some reductions in the use of appropriate parental responses. In those experiments where the levels of appropriate child behaviour had been maintained, it can be concluded that the parents and teachers had also maintained a satisfactory level of appropriate responses to that behaviour in order for the maintenance of the children's behaviour to have occurred.

Discussion

Four important issues are raised by the experiments reviewed. The first is the type of training programme which is likely to be successful in training parents and teachers to better manage young children with behaviour disorders (Sanders, 1982). The second is how the characteristics of those being trained are likely to impact upon the effectiveness of the training (Knapp & Deluty, 1989; Reisinger et al., 1976). The third is the role of the experimenter in the training process and following the conclusion of training. The fourth is that of the maintenance of the newly acquired management skills by the teachers and parents.

Types of Training Programmes

The training procedures reviewed which contained various combinations of prompting, explanations, knowledge, rehearsal, practice, and feedback were all successful in bringing about improvements. Of these components, it would appear that three may be essential. These are prompting, practice, and feedback (Budd, et al., 1976; Reisinger, 1982; Reisinger et al., 1976; Sanders, 1982). When any one of these components was not present, the training programme did not seem to produce the same level of change in the behaviour of those being trained. When other components were added to these three they appeared to add little to the effectiveness of the training.

Little attempt was made in the studies to examine the relative effectiveness of the components of training programmes. The exceptions here were Sanders' (1982) analysis of the relative effectiveness of instructions, feedback, and prompting and Webster-Stratton et al.'s (1988) analysis of the differences between videotaped instruction and discussion as a means of improving parenting responses. The Sanders (1982) study showed that an effective training programme needs to contain both prompting to prompt correct management behaviours from parents and feedback that differentiates correct from incorrect performance. The Webster-Stratton et al. (1988) study showed that a combination of group discussion and video tape modelling produced greater changes in parent behaviour than either individual video tape instruction or group discussion were able to produce in isolation. If we are to understand the structure of training programmes that successfully change the management behaviour of parents and teachers, a great deal more research into the effects of the various training components will be needed.

Prior Knowledge and Skills of Parents and Teachers being Trained

The second factor which may determine the relative success of the training is what individual participants know and can do before they start. The background and skill level of those being trained seems to be an influencing factor on the effectiveness of the training and how long the training may take to become effective. For instance, middle class parents (who are likely to be better educated than lower class parents) appear to require less demonstration and role play in order to bring about the same level of improvement in their management behaviour (Knapp & Deluty, 1989). In the case of the middle class parents, discussion and practice seems to be enough. Similarly, the studies which sought to train teachers tended to be shorter than many of the parent programmes, yet produced immediate improvements that were as large (Cooper et al., 1970; Ward & Baker, 1968).

An additional set of factors which may influence the effectiveness of the training are the presence or absence of additional problems which may be present in the lives of those being trained. An example of such an influence is the marital relationships of those being

trained. Those parents who perceived that they had marital problems were more difficult to train to the same level of improvement than those who did not (Reisinger et al. 1976).

The factors mentioned above are consistent with observations made Patterson (1982) who noted that about a third of the parents he sought to train could be trained easily, another third could be trained with some difficulty, and the final third were "untrainable". In the case of the third who were "untrainable" it was often because there were significant problems which existed within the family in addition to the inappropriate behaviour of a child or children. This view is supported by Fergusson, Horwood, and Lynskey (1992) who argued that some 20 per cent of the families who had produced children with severe conduct disorders had multiple difficulties which impacted upon their ability to manage the behaviour of their children. These factors included such things as substance abuse, abusive relationships between partners, and very large deficits in the management and child-rearing skills of the parents.

Role of the Trainer in the Training Programme

A further issue raised by the experiments reviewed here is the role of the experimenter in the training. The very systematic component analysis conducted by Sanders (1982) clearly shows the importance of initial prompting practice, and feedback in order to begin to shape appropriate management behaviours in parents. What is less clear is just how long this process should go on for, and what happens when the experimenter stops providing the cues and feedback. The maintenance data provided by a number of the studies tends to indicate that in those studies where some effort is made for the trainees to become independent of the trainer the newly acquired management behaviours of the parents tend to be maintained and even improved up to three years after training (Forehand & King, 1979; Webster-Stratton, 1984). In cases where there is no provision for the fading of the influence of the trainer the newly learned behaviours are less likely to be maintained (Cooper et al., 1970).

Another important issue is somewhat more pragmatic in nature. It relates to the practicality of training programmes in terms of the time and organisational constraints present in both domestic and educational settings. Some of the studies contained a very large number of training sessions. For instance, Budd et al. (1976) required 106 sessions of up to 20 minutes in duration to train one mother; Kelley et al. (1979) required 20 sessions to train a mother and father, and Reisinger (1982) required 25 sessions of 25 minutes to train four mothers. Almost all of the training programmes reviewed were very much researcher directed to the point where the researcher instructed the parent not only in what had to be done, but when they should do it. Unfortunately, most parents and teachers do not have the opportunity to undergo such intensive and controlled training and many may baulk at it even if they did. Perhaps a more realistic challenge for trainers in this field is to develop training programmes which have multilevel interventions based on the specific training needs of the parents or teachers being trained (Sanders, 1992; Sanders & Markie-Dadds, 1992). In this way the need for the high levels of researcher direction described in the studies in this chapter may be able to be reduced for many of those undergoing training.

Maintenance of Parent and Teacher Behaviours

If the antisocial behaviours of the child with behaviour disorders are to be replaced by prosocial behaviours, the teacher's responses to these two classes of behaviour must change. This can only happen if the setting is changed in such a way that the reinforcement generated by new management behaviours is greater than the reinforcement generated by old management behaviours. In addition the reinforcement for the new management behaviour must occur naturally in the setting to avoid the need for a formal supervised programme of maintenance (Stokes & Baer, 1977).

The great majority of the experiments reviewed made no provision for maintenance. However, those that did met with some success in terms of maintaining the behavioural improvements of the target children (Cooper et al., 1970; Forehand & King, 1977; Forehand et al., 1979). Training parents and teachers in such a way that newly acquired behaviour management skills are maintained is difficult for a number of reasons.

First, the training programme may produce changes in teacher behaviour without producing parallel changes in their beliefs. If the training programme fails to produce changes in the verbal rules which teachers use to guide their reactions to appropriate and inappropriate child behaviour, the newly acquired behaviour may not last much beyond the conclusion of the training programme (Knight, 1995).

The rules of the setting may also continue to function as discriminative stimuli for the old behaviours rather than the new ones (Albin & Horner, 1988; Rose, 1994; Stokes & Osnes, 1988). For example, if the rules of the kindergarten have traditionally required the teachers to respond to misbehaviour in a particular way, such as re-direction, then these rules may continue to prompt re-direction once the training programme has finished. If this occurs then the new management behaviours may quickly fade.

The same may also be said of instructions and comments from the supervising teacher and other staff in the kindergarten. If, following training, the staff in the kindergarten revert to the same kinds of verbal comments and routines that they used prior to training it is most likely that those comments will act as prompts for the old behaviours rather than the new ones.

A second factor which works against the maintenance of newly acquired management behaviours is that many of the prompts which might function as discriminative stimuli for the new behaviours have previously functioned as discriminative stimuli for the old behaviours. Prior to training, for example, coercive child behaviour may have been a cue for the teacher to move toward the child and re-direct her or him to another activity (Dumas, 1989; Hall, Panyon, Rabon, & Broden, 1968; Patterson, 1982; Porterfield, Herbert-Jackson & Risley, 1976). Part of the training may have required the teacher to change this and to confront this behaviour in some way. If reinforced practice of the new teacher response is insufficient, coercive child behaviour may remain a discriminative stimulus for re-direction rather than confrontation once the trainer mediated reinforcement is removed.

This will be especially so if the old behaviours have been practised to a high level of fluency, while the new behaviours have only been practised to a low level of fluency (Rose, 1994). Under these conditions the teachers may view the new management behaviours as

time consuming and demanding. They may even see them as punishing given that they require more effort for what is initially a less visible and obvious result. It is only when the new behaviours have been practised to fluency that they are likely to appear to require less effort.

A third factor which works against maintenance is that the old behaviours may generate more immediate reinforcement than the new management behaviours (Patterson, 1982). For example, the new management behaviours may have outcomes which are actually aversive. Confronting coercive behaviour or letting a tantrum run its course is far more aversive for the teacher than giving in to it and letting the child have what she or he wants (Patterson, 1982). In addition, the main potential source of naturally occurring reinforcement for the new behaviours, improved child behaviour, may not become apparent to the teachers for some time.

Fourthly, many of the old management behaviours may have been strengthened on intermittent schedules, which, once again, make them more resistant to extinction than the newly acquired behaviours which have been reinforced on a continuous schedule during training. While a very regular schedule of reinforcement can strengthen and increase behaviours very quickly, once the regular reinforcement ceases at the end of the training programme, so too do the behaviours that it was maintaining (Lowry & Whitman, 1989).

The preceding analysis suggests that training programmes which are designed to produce maintenance in the management behaviour of parents and teachers will need to contain five important components.

First, there is the need to change the environment in the institutional setting through changes in the rules and terminology used by the teachers (Rossiter, 1982; Rowberry, Baer & Baer, 1976). This may involve establishing new cues to get the children to perform certain behaviours and re-defining the rules of the kindergarten in such a way that greater emphasis is placed on what it is that children *should* be doing rather than what they should *not* be doing (Cooper et al., 1970). An example here is in the way in which the rules of the kindergarten are stated. In some cases the rules are stated in negative terms, such as "don't run inside", whereas a more positive way to state this might be "please walk inside". The

former, by definition, will tend to focus teachers' attention on what the children should not be doing, thus encouraging reprimands; the latter focuses attention on what the child should be doing and, as such, makes the reinforcement of the behaviour much easier.

Secondly, there is the need to train the teachers to recognise and reinforce the new management behaviours in their colleagues rather than to continue to reinforce the old ones (Kelley, Embry & Baer, 1979; Rose, 1994). If the teachers are receiving mutual support and encouragement from each other for using the new behaviours there is a greater chance that they will keep using those behaviours for a longer period.

Thirdly, as improvements in child behaviour may take some time to become visible this change alone may not be sufficiently reinforcing to the teachers to maintain the newly acquired management behaviours. It may be necessary to have some stronger, external rewards in place once the training is concluded to act as an incentive for them to keep using the new behaviours. These rewards could take a number of forms, anything from praise from an outside person, to a desired activity or tangible item if goals are met. This kind of procedure seems never to have been considered by teacher training researchers. It seems to have been assumed that improvements in the behaviour of the child or the knowledge that they are being better parents or teachers will be enough to sustain training improvements.

Fourthly, if maintenance is to be achieved there is a need to give the teachers sufficient practice of the new behaviours (Rose, 1994). If the teachers are to find the new behaviours less onerous and more reinforcing, then they need to become as fluent as possible in their performance. Such fluency requires practice and so sufficient opportunities to practise must be present as part of the training programme. It also seems necessary that this practice should occur in the setting where performance of the new skills is desired. To train the skills in a separate place and under different conditions from those that would normally occur in the "regular setting" is likely to result in skills which fail to generalise to the regular setting (Albin & Horner, 1988; Patterson, Chamberlain & Reid, 1982; Patterson & Fleischman, 1979).

Finally, if acquisition is trained using a continuous schedule of feedback and reinforcement there will be a need to fade this gradually following the conclusion of the

training. If fading occurs too quickly, the new skills may extinguish more rapidly than the old ones (Lowry & Whitman, 1989).

It is for these reasons that a programme for the structured maintenance for teacher management behaviour was included in the training programme designed for this research. This included the requirement that the teachers monitor each others' management behaviour, that they reinforce the use of the new management behaviours, and that they meet at regular intervals to discuss their performance.

Summary

From the 24 studies reviewed it would seem that there are two sets of factors which are likely to influence the effectiveness of training programmes. The first set of factors are the knowledge, skills, and personal circumstances which the trainees bring to the training. The second set of factors are the actual components of the training programme itself.

The results of the studies indicate that the factors which assist in the effectiveness of training include, higher educational levels, higher socio-economic levels, stable marital relationship, and the absence of specific barriers such as poverty, mental illness, substance abuse, or combinations of these. As teachers tend to have attained higher educational levels, middle to upper-middle socioeconomic status, and do not suffer from poverty a number of the barriers to training appear not to be present. It is also unlikely that teachers could continue to practise if they were suffering from mental illness or substance abuse. The results also indicate that there must be at least three key components in training programmes if they are to be successful. These components are prompting, practice, and feedback. However, there is some evidence from the studies to suggest that those with higher levels of skill and less social disadvantage prior to training may not require either the same the length of time or level of direction as those with lower levels of skill and / or various social disadvantages.

CHAPTER FIVE

PROCEDURES

The primary aim of the experiments in this thesis was to measure the effects of a training programme on the management behaviour of kindergarten teachers and, in those cases where teacher behaviour changed, to measure the effects of these changes in teacher behaviour on the behaviour of children who had been diagnosed as behaviour disordered.

Johnston and Pennypacker (1993) argue that certain requirements must be met if the measurement procedures used in an experiment are to meet scientific standards. These are a) the selection of appropriate response classes as dependent variables, b) the selection of appropriate procedures to measure changes in theses response classes, c) assessment of whether or not the independent variables were implemented in the manner intended (treatment fidelity), d) achievement of an adequate degree of experimental control in the measurement of treatment effects, and e) achievement of an adequate level of accuracy and reliability which was achieved during the measurement of the independent and dependent variables.

Setting

The experiments reviewed in Chapter 4 used three types of setting; clinic, home and school settings, or a combination of each. Clinic settings, which were used in some 11 of the reported studies, usually involved the parent and subject children being trained in a specialised setting away from the environment in which the behaviour would normally occur. The advantages of clinic settings are that independent variables can be very tightly controlled and extraneous events which are likely to have a confounding effect can be reduced or eliminated (Cooper, Heron & Heward, 1987). The disadvantage of clinic settings is that they are somewhat contrived environments which may bear little resemblance to the settings in which the inappropriate behaviours typically occur. Johnston and

Pennypacker (1993) argue that undertaking research in more natural settings is more relevant to everyday life especially when analysing human behaviour which is continuous in nature, and where the environments in which it takes place are complex and changeable (Johnston and Pennypacker, 1993).

Dependent Variables and their Measurement

All of the experiments reviewed in Chapter Four identified two classes of dependent variables. These were (a) changes in the management behaviour of the parents or teachers who were trained and (b) changes in the rates of inappropriate behaviour of the children targeted by those parents and teachers. The same two classes of behaviour were selected as dependent variables for the experiments in this thesis; changes in the management behaviour of teachers and changes in child behaviour.

Teacher Behaviours Observed

In all of the experiments reported in Chapter 4 the trainers sought to change one or more of three classes of parent behaviour; to increase the positive responses which the parents made to the children for appropriate behaviour, to decrease the attention which the parents gave to the children for inappropriate behaviour, and, in some cases, to increase the use of specific responses, such as the use of time out, which the parents made to certain classes of inappropriate child behaviour. For the present experiments it was decided that training effects for the teachers would be measured using measures of the positive responses and negative responses which the teachers made to the behaviour of the subject children.

Positive responses were defined as those which appeared to be comments about appropriate behaviour and which, hence, were likely to increase the incidence of appropriate behaviour in the child. Negative responses were defined as those which appeared to be reactions to inappropriate behaviour and which might, therefore, be maintaining the

inappropriate behaviour of the child. Where the teachers were trained to use time out, their use of this procedure was also recorded. Rates of use of positive and negative responses by the teachers were chosen as the measure of the effectiveness of the training programme because it is these teacher behaviours which form the basis of effective behaviour management with all children, but especially those who have behaviour disorders. Unless there is an increase in attention to appropriate behaviour and a reduction in attention to inappropriate behaviour then changes in the frequencies of these behaviours are unlikely to occur (Merrett & Wheldell, 1984). It was for this reason that the positive and negative teacher responses were seen as the important measures of the effectiveness of the training.

Child Behaviours Observed

In the experiments reviewed in Chapter 4, three general classes of inappropriate child behaviour were targeted. The first were behaviours which were dangerous or threatening to others, such as physical and verbal aggression. The second were behaviours which involved non-compliance, such as refusal to follow simple instructions or directions. The third were behaviours which were regarded as socially repugnant, such as foul language. The child behaviours selected for the present experiments were appropriate behaviour, inappropriate behaviour, and non-engaged behaviour. Whether or not the child's behaviour was appropriate or inappropriate was determined by the rules and expectations of the kindergarten where the particular experiment took place. All inappropriate behaviours were grouped together under a single heading for two reasons. First, the teachers were concerned about the child's use of a number of inappropriate behaviours (such as mis-use of equipment, disrupting others, rule breaking, non-compliance and aggression) and not just one or two of these. Secondly, all inappropriate behaviour was recorded in order to avoid the very long recording intervals which would have been required if only one behaviour, such as compliance or hitting, had been selected for observation.

The kindergarten teachers who were consulted prior to the commencement of the study all commented that children who demonstrate severe behaviour problems seem to

spend a significant amount of their time either not engaged in appropriate activities or not engaged with other children or adults. The teachers commented that they had often observed these children wandering around the kindergarten engaging in only fleeting interactions with others, interactions which were often disruptive. For this reason it was decided also to record when the target children were not engaged either with an appropriate task or in an appropriate manner with another child or adult.

Measurement Procedures

In an experimental analysis the behaviours of interest may be measured before and after treatment or they may be measured repeatedly throughout the experiment (Cooper, Heron & Heward, 1987). According to Church (1990) it seems to be widely agreed that learning is a continuous phenomenon and that changes are likely to occur incrementally. Johnston and Pennypacker (1993) also argue that behaviour is dynamic and that any accurate attempt to measure it should be able to depict on-going changes which occur.

In the experiments reviewed in Chapter 4 only a little under 50 per cent used some form of continuous recording, while the remainder used some form of group design in which behaviour was recorded only once or twice during the experiment. In the present experiments the on-going behaviour changes of both the teachers and children were of interest to the experimenter and, in order to measure these changes, the behaviour of the teachers and children was measured repeatedly throughout each experiment.

Repeated measures allow the experimenter to measure the effects of treatment on the target behaviours of interest in the teachers and children, the on-going changes in the target behaviours of interest in the teachers and children, the rates of behaviour change, and the trends in the change which have occurred (Cooper, Heron & Heward, 1987). All of these features of continuous recording were considered important in order to determine not only the degree of change which occurred in the experiments, but also when the changes occurred.

Recording of Teacher Behaviour

In the experiments reviewed in Chapter 4, the behaviour of parents and teachers was usually measured by counting the frequency of use of target behaviours during a given time period. For instance, the number of times the parents or teachers reinforced or reprimanded the target children were counted over a given time period. This form of measurement was chosen as the teacher behaviours of interest were discrete, short in duration, and, for the most part, easy to distinguish from other forms of parent or teacher behaviour (Cooper, Heron, & Heward, 1987; Johnston & Pennypacker, 1993). This same form of measurement was adopted as the measure of teacher behaviour in the present experiments.

Those experiments which used repeated measures in Chapter 4 reported parent or teacher behaviour in one of two ways. The first was to report the response rates of individual parents or teachers (e.g. Budd, Green & Baer, 1976). The second was to report the collective response rates of the parents or teachers in the experiment (e.g. Sanders, 1982). In the experiments in this thesis it was decided to report the collective responses of the teachers for two reasons. First, the aim of the training programme was to improve the management behaviour of all of the teachers in the setting. It was seen as crucial to change the "institutional response" to both the appropriate and inappropriate behaviour of the target children. Although the behaviour of the individual teachers was of interest, the aim of the training programme was to change the responses of all of the teachers in the kindergarten because, unless this was achieved, the behaviour of the target children would be unlikely to change. Secondly, the way in which the intervention was organised required each of the teachers in each setting to take turns at focusing on the target children on consecutive days. It was important for the success of the treatment that all of the teachers saw it as their responsibility to be involved in the management of the target children. Consequently, it was seen as more appropriate to report collective, rather than individual data on the responses of the teachers.

Recording of Child Behaviour

The training experiments reviewed in Chapter 4 measured child behaviour in one of two ways. In some cases (e.g. Forehand & King, 1977; Taplin & Reid, 1977) individual instances of inappropriate behaviour were recorded and counted in much the same way as parent and teacher behaviours were. The counts were often reported as a rate per minute or per hour. In other cases (e.g. Reisinger, 1982; Wahler, 1969; 1980), the experimenters used an interval recording procedure which involved observing the target child for a particular period, usually 10 seconds. If the child performed any one of a number of inappropriate behaviours during that 10-second interval, the interval was coded as "inappropriate". The resultant measure from this form of recording is the percentage of intervals that the child is or is not engaged in appropriate (or inappropriate) behaviour.

In the experiments in this thesis the interval recording procedure was used to record child behaviour because the target children tended to engage in a variety of inappropriate behaviours some of which were short and discrete, and others of which were not. In fact, some inappropriate behaviours, such as the mis-use of equipment, could continue for a considerable period of time.

The length of the intervals and the duration of the recording sessions over which the children were observed was determined by the environmental conditions and frequency of the behaviours being observed (Cooper, Heron & Heward, 1987). Those experiments reviewed in Chapter 4 almost always used 10-second intervals in order to observe and record the behaviour of the parents and children. It was decided to use 10-second intervals to observe the behaviour of the teachers and children in the present experiments.

In the Pilot Study reported in Chapter Six the observers were required to observe and record the behaviour of five children. In the four subsequent experiments the observers were required to observe and record the behaviour of two children. Three possibilities were considered for managing this. The first was to observe each child during alternate 10-second intervals until 20-minutes of data had been collected on each child. This was rejected on practical grounds. The subject children were highly mobile and could move

anywhere in the kindergarten setting. It was most unlikely that even the quickest and most experienced observer would be able to continually keep track of the children over alternate 10-second intervals. The second possibility was to observe each of the subject children continuously for 20 minutes, coding their behaviour in 10-second intervals. This was rejected because of the organisation of the sessions in kindergartens. For instance, if all of the observations for one child were taken during free play whereas those for the second child were taken during a more structured activity following it, the recorded frequencies would have been strongly influenced by context effects. The third possibility was to structure the observations so that the children could be alternately observed during the session, in order to record their behaviour during similar activities, while, at the same time, allowing the observer sufficient time to locate each child and to collect suitable data before moving on to the next child. It was decided that the observer would alternately observe each of the children for five minutes, using a 10-second interval procedure, until 20 minutes of data had been collected on each child.

The length of each observation session was more problematic. In the experiments described in Chapter 4 the reported observation sessions were of somewhat varying length, from 5 minutes to 2.5 hours. In the Pilot Study and experiments in the present series the length of the observation sessions was, in large part, determined by practical considerations such as the total length of the session, the timing of activities and routines, and the need to travel between two kindergartens within a limited period of time. In the Pilot Study it was decided to use a 20 minute observation session for each child and review this at the conclusion of the experiment.

In the current experiments it was decided to train the teachers in the natural setting in which they operated on a daily basis, their kindergarten. It was felt that by doing so the new management behaviours acquired by the teachers would be more likely to come under the control of stimuli which were present in the kindergarten on a regular basis and, as a result, stand a greater chance of being maintained over time. It was recognised that in attempting to train the teachers in a kindergarten setting that it would be more difficult, if not impossible, to control all of the potential variables which might have an effect on teacher

behaviour. Events such as the weather, unexpected visitors, visits from personnel from other agencies, and small changes in daily routine all combined to make experimental control difficult. Despite the fact that all of these things are problems from the viewpoint of scientific control, they represent the "real world" of a kindergarten and, therefore, must be included in any attempt to measure the effects of inservice training on teacher behaviour.

Experimental Design

In the case of the Pilot study and four experiments in this thesis there were two functional relationships of importance. The first was whether the Training and PSP Programme produced changes in the management behaviour of the teachers in each setting. The second was whether or not those changes in teacher behaviour resulted in subsequent changes in the behaviour of the target children.

In order to demonstrate the existence of experimental control, the usual practice is to use designs which require the replication of the effect of the independent variable within the same experiment (Johnston & Pennypacker, 1993). For example, the changes in behaviour which are produced must be reliably and repeatedly produced by the independent variables which are present (Cooper, Heron & Heward, 1987). In the experiments reviewed in Chapter 4 this was achieved using two main kinds of experimental design; the reversal design and the multiple baseline across subjects design. Neither of these designs was appropriate for the experiments in this thesis.

The reversal design was considered inappropriate because the aim of the training was to bring about long-term changes in the way in which the teachers responded to the target children. Once they had begun to practise new responses it would have made no sense to ask them to revert back to their old behaviours for a period of time.

A multiple baseline design across subjects was rejected on the grounds that a programme which trained all of the teachers in a kindergarten at one time, and required them to implement the treatment with more than one target child concurrently, was likely to be both more effective and more cost efficient than training the individual teachers or

implementing the treatment programme for one pupil at a time. While it may have been possible to implement the treatment at different times for each of the target children in each setting, this too was rejected on both practical and ethical grounds. It seemed inappropriate to ask the teachers to apply their new skills to just one of the target children and to refrain from applying them to the second child until the effects on the first child had been measured. Discussions which were held between the trainer and the teachers indicated that the teachers would have been unhappy to apply their new skills to only one child. The teachers felt that their aim was to improve the tone in the whole setting and that this could not be achieved by altering their responses to one child only. They also indicated that it was not uncommon for children with problem behaviours to interact together. Consequently, to begin the treatment by only attending to only one child may well have had only weak effects on the behaviour of the child. Consequently, both of the traditional experimental designs which are normally used in experiments of the kind described here were rejected largely on practical grounds.

The design selected to evaluate the effects of the training was an ABCD design. The four phases of the ABCD design were Baseline, Training, Implementation (Post-Training), and Follow-up. The Baseline Phase involved observing and recording the pretraining behaviour of the teachers. The Training Phase involved the teachers undergoing a training programme in the form of a series of 6, 90-minute workshops, comprising readings, discussion, quizzes, and role plays over a three to four week period. There was no requirement to implement the new procedures at this stage. During the Implementation Phase the teachers were required to begin using the skills which they had learned during the Training Phase. This involved increasing the teachers' monitoring of the target children, increasing their responses to appropriate child behaviour, and reducing their attention to inappropriate child behaviour. The Follow-up Phase involved the collection of data on the behaviour of the teachers several weeks after the conclusion of the Implementation Phase.

In the Pilot Study and four experiments phase changes represent changes in the conditions which applied to the teachers, that is, the stage of the training which they had reached. The Training Phase commenced when the Training Programme and workshops

commenced. The Implementation Phase commenced at the point where the teachers were required to begin to use the new skills which they had been taught during training. The commencement of the Follow-up Phase was based on the time which had elapsed following the conclusion of the Implementation Phase.

The design selected to evaluate the effects of teacher responses on the behaviour of the target children was an ABC design. The three phases were the Baseline Phase, the Implementation Phase, and the Follow-up Phase. The Baseline Phase involved observing and recording the behaviour of the target children prior to the implementation of the new management responses of the teachers. The Implementation Phase represented the beginning of the treatment for the children and coincided with the requirement for the teachers to begin to implement their newly acquired management skills. The Follow-up Phase involved the collection of data on the behaviour of the children several weeks after the conclusion of the Implementation Phase.

Maintenance Interval

Clearly, improvements in behaviour are only beneficial if they are long-lasting (Cooper, Heron & Heward, 1987). However, fewer than one-third of the studies reviewed in Chapter 4 collected any data on maintenance. The length of time of the maintenance interval in these studies varied from one week to one year after the conclusion of training. In order to claim that maintenance has occurred, the length of time that must pass between the end of an intervention and the collection of maintenance data is uncertain and often varies according to circumstances (Barlow & Hersen, 1984).

For the present study, the writer examined the data in those studies which used reversal designs. In all of the studies which used reversal designs in Chapter 4, any behaviour changes which had been observed during the intervention phases of those experiments, had begun to reverse within a week of the removal of the intervention. Therefore, in the present experiments a maintenance period of three weeks was considered

to be sufficient in order to determine whether or not maintenance of changes in teacher behaviour had occurred.

Treatment Fidelity

Treatment fidelity refers to the extent to which the independent variable is implemented and carried out as planned and described (Cooper, Heron & Heward, 1987). In the Pilot Study and four experiments in this thesis there were two independent variables. The first was the training programme which sought to improve the management behaviour of the teachers in each kindergarten setting. The second was the changes which occurred in the responses of the teachers as they sought to better manage the behaviour of two target children with behaviour disorders in each setting.

No treatment fidelity data were collected on the administration of the training programme. It was assumed by the experimenter that the training would be adequately controlled, from one experiment to the next, by the fact (a) that the training programme had been written down and specified in detail for each training session and (b) that all training was being undertaken by a single person (the experimenter).

Treatment fidelity data were collected with respect to the changes in teacher behaviour which occurred as a result of the training. When the observers were collecting data on the changes in teacher behaviour which occurred as a result of the training programme, they were also collecting treatment fidelity data on the implementation of the treatment programme for the children.

Assessment of Measurement Accuracy and Reliability

There is some disagreement amongst researchers as to how the reliability of data can be assessed in the study of behaviour. According to Johnston and Pennypacker (1993) there is a need differentiate between the accuracy, reliability, and believability of records of behaviour. Accuracy refers to the extent to which the results obtained are a true record of

what happened. Reliability refers to the extent to which the observational procedure generates the same result when applied repeatedly to the same phenomenon. Believability refers to the extent to which the observational (or measurement) results can be believed. When two observers report the same result when applying the same measurement procedure to the same phenomenon this provides evidence of consensual validity which enhances the believability of an observational record but it does not provide evidence of either accuracy or reliability (Johnston & Pennypacker, 1993).

Interobserver agreement has been the preferred method of assessing reliability in studies which seek to train teachers and parents to better manage the behaviour of children with behaviour disorders. In Chapter 4 some 85 per cent of the studies reviewed used this method to assess reliability. Cooper Heron, and Heward (1987) argue that observational reliability can be determined by measuring the extent to which two observers agree on the behaviours which they have observed. This is assessed by having two observers simultaneously observe and record the target behaviours and then comparing how closely they agree on the occurrence or non-occurrence of the behaviour. This is achieved by counting the incidents of agreement, either individual events or intervals, and dividing them by the total possible recording opportunities, in order to generate a percentage of agreement between the two observers.

In the current series of experiments, it was decided to use interobserver agreement to assess the believability of the observations recorded for two reasons. First, it was the most widely used means of determining consensual validity reported in studies similar in nature to those reported in this thesis. Secondly, the only way of assessing accuracy and/or reliability would have involved the video recording of teacher and child behaviour. This was not feasible because (a) the children were too mobile and (b) there was not enough money to provide the range of equipment required.

A procedure for maintaining observer accuracy was put in place by daily meetings between the trainer and the main observer to calibrate the observations which were being undertaken. In addition, the trainer met with both observers once a week in order to discuss the week's events. At those meetings the observers were able to raise any questions or

concerns related to their task. Any uncertainties about how certain behaviours ought to be coded during the Pilot Study and four experiments were addressed either at that meeting or on a daily basis between the observers and the trainer.

In the experiments in this thesis interobserver agreement was assessed by having a second observer simultaneously observe the behaviour of the target children and their teachers on approximately 20 per cent of the observation sessions. Percentage of agreement for the recording of the behaviour of the target children was calculated by dividing the number of 10-second intervals where the two observers coded the same class of behaviour during the interval, by the total number of intervals that day, and multiplying by 100. Percentage of agreement for the responses of the teachers was calculated by dividing the number of occasions where both observers coded the same teacher responses during the interval by the total number of possible intervals that day, and multiplying by 100.

Consent of the Participants

Prior to the commencement of the Pilot Study and experiments in this thesis all of the teachers involved in the training, and the trainer, agreed to the conditions under which the training would occur. The teachers agreed to undertake the training programme and, to the best of their ability, implement the requirements of the training programme. The trainer agreed to (a) provide the training programme (b) provide the necessary equipment for the training programme (c) store any data collected in a secure place (d) maintain the confidentiality of those taking part in the training and (e) give the participants of the training feedback on the results at the conclusion of the experiment.

CHAPTER SIX

THE PILOT STUDY

In order to change the inappropriate behaviour of children with behaviour disorders it is necessary for those closest to them to change their responses to that behaviour. In Chapter Four a number of studies which sought to train parents and teachers in this regard were described. Most were successful in changing parent and teacher behaviour, however the majority were very intensive, trainer directed programmes which were both time-consuming and demanding on both the trainer and those being trained (Budd, Green, & Baer, 1977).

The Pilot Study had three aims. The first was to check the accuracy of the three - stage screening procedure described in Chapter 2 (the Standardised Screening for Behaviour Disorders) in order to determine whether or not it was able to identify children with behaviour disorders as preschoolers. The second was to assess the accuracy and sensitivity of the experimental procedures decided upon and described in Chapter 5. The third was to measure the effectiveness of the Positive Response Initiatives for Mainstream Educators (PRIME) training programme which had been designed to teach kindergarten teachers how to better manage the behaviour of children identified as behaviour disordered. Because the teachers being trained were well educated and had a history of educational and child-management training, it was hypothesised that they would not require the same level of intervention as would be required for a parent who had much fewer skills and no particular background in behaviour management (Patterson, 1982; Sanders, 1992).

Method

Subjects and Setting

The Pilot Study was conducted in a Christchurch kindergarten. Forty children attended the morning session and 38 children attended the afternoon session at the time of the experiment. There were three teachers present, although one focused much of her attention on a small group of children with special needs who were present in the kindergarten.

The kindergarten itself was situated in the eastern suburbs of Christchurch. It was suggested as a possible venue for the Pilot Study by the kindergarten Senior Teachers. The Senior Teachers, whose job is to advise kindergartens on programmes and management, were aware of the existence of children with behaviour problems in the kindergarten.

The kindergarten layout was an "L" shape with each branch of the "L" providing a separate play and activities area for the children. The ground at the front of the kindergarten was also a designated play area and was provided with outdoor play equipment and activities. During the course of the study, the children were largely allowed to choose the activities which they wanted to participate in, and the time spent on them. The only exceptions to this were when the teachers asked the children to come inside for morning tea and, towards the end of each session, when they asked the children to come to the mat before going home. During most sessions one of the teachers supervised the children who chose to be inside, one supervised those who chose to be outside, and the third moved between both areas.

Subjects were selected in the following manner. First, the teachers were asked to nominate children in the kindergarten whom they considered difficult to manage and to rank them in order from most to least difficult. Seven children were nominated. Secondly, two of the teachers then completed the Canterbury Social Development Scale independently for each of these seven children. Three of the seven children scored below the 140 point cut-off suggested by Bradshaw (1988) as indicative of a serious behaviour disorder (and well

below the 150 which had been decided as the cut-off point in these experiments). All three were boys. MK, aged 4 years 3 months, received scores of 91 and 86. RO, aged 4 years and 3 months, received scores of 102 and 117. AD, aged 4 years 11 months, received scores of 133 and 127. AD was soon to leave the kindergarten to go to school so it was decided not to proceed with him as a subject. Thirdly, MK and RO were observed for five, 20-minute sessions in order to determine whether their rates of inappropriate behaviour were sufficient for them to be included as subjects. In addition to MK and RO, who had been identified as behaviour disordered, three additional children who had been nominated as not difficult to manage (ME, TM, and AA) were randomly selected to act as control subjects.

Definitions of Behaviour

The two teacher behaviours recorded were: (a) positive responses to appropriate child behaviour, and (b) negative responses to inappropriate child behaviour. Positive responses were coded when a teacher made a specific remark or gesture about the behaviour of a child which indicated approval of that behaviour. Negative responses were coded when a teacher made a remark or gesture about the behaviour of a child which indicated disapproval of that behaviour. Gestures included such things as nods, smiles, the "thumbs-up" sign, or frowns.

Three child behaviours were recorded: (a) appropriate behaviour, (b) inappropriate behaviour, and (c) non-engaged behaviour. Appropriate behaviour was defined to include being engaged in an appropriate task, activity, or interaction with other children or adults. Inappropriate behaviour was defined to include being engaged in a task or activity which was prohibited within the kindergarten, engaging in inappropriate interactions such as physical aggression or physical disruption, using inappropriate verbal behaviours such as swearing, lewd jokes and gestures, or "put down" remarks, or damaging property or materials. Non-engaged behaviour was coded when the child was observed not to be engaged in any particular activity, and not to be interacting with any other child or adult.

The definitions of appropriate and inappropriate were setting specific and were formulated after discussions with the teachers during which they were asked to state what was and was not acceptable behaviour in the kindergarten and to describe the rules which applied in their kindergarten.

Observer Training

Two observers were employed, one as the main observer and the other as the reliability checker. Both of the observers studied written material describing the observation techniques to be used, the behaviours to be recorded, and the codes and symbols to be used to record them. They then underwent 30 hours of training consisting of two parts. The first part required them to view videotape material of children displaying the kinds of behaviours which they would be see in the kindergarten. The second part required them to observe in a kindergarten until they were able to reach 80 per cent agreement on each of the behaviours to be observed over three consecutive occasions.

Observation Procedure

Each of the five subjects was observed for 5 minutes at a time. At the end of the five minute observation period there was a brief break while the observer(s) located the next subject and got into position to observe him. Once they had done so, they observed that subject for 5 minutes. This process was repeated until each child had been observed for 20 minutes. A 10-second interval recording procedure was used. At the end of each interval, the observer first coded whether the target child was engaged in appropriate, inappropriate, or non-engaged behaviour during the 10-second interval and then recorded each instance of positive teacher response and each instance of negative teacher response to the target child's behaviour. If the child engaged solely in appropriate behaviour the interval was coded as appropriate. If the child engaged in one or more instances of inappropriate behaviour, regardless of duration, the interval was coded as inappropriate. If the child was non-

engaged for the whole interval the interval was coded non-engaged. If the child was engaged in appropriate behaviour and non-engaged behaviour in the same interval, the interval was coded as appropriate behaviour (because it was simply too difficult for the observers to determine whether or not the child was moving to another person, another activity, or to non-engaged behaviour within a 10 second interval). The observers were not aware of which children had been identified as behaviour disordered and which had not prior to the commencement of data collection, although it quickly became obvious to them once data collection commenced.

During the observation sessions, both observers used a small battery powered timer which produced a signal through an ear plug every 10 seconds. The observers used alternate 10 second intervals to observe and then to record. They also carried a clipboard in order to record their observations. Both were trained to remain as unobtrusive as possible in the setting and trained how to respond (or not) to the questions and curiosity of the children.

Observations were carried out during the morning sessions of the kindergarten for all of the children. The observer waited until most of the children had arrived, had been greeted, and their parents had departed before commencing to record. Recording usually began about 9.15 a.m. and concluded about 11.30 a. m.

Observer reliability data was obtained by having the second observer accompany the main observer on at least 20 per cent of observation sessions. Both observers recorded independently for each of the subject children while listening to the synchronised signal from their timers.

Teacher Questionnaires and Anecdotal Notes

In addition to the direct observations, two other forms of data were collected. The first was a pre-training questionnaire which asked each teacher to comment on their teaching background, the expectations which they held regarding child behaviour, the behaviour rules that operated in the kindergarten, their beliefs as to how children develop antisocial

behaviour, and their views regarding behavioural methods for changing the behaviour of very young children. This was done in order to identify any strong resistance which any of the teachers may have had to the training programme. The other source of information consisted of notes and comments from the teachers collected at the conclusion of the training and prior to the collection of post-training data.

Design

The Pilot Study was planned as two contemporaneous experiments in which there were to be three phases (ABC) to measure changes in teacher behaviour and two phases (AB) to measure changes in child behaviour. The three phases to measure changes in teacher behaviour were to be: (a) Baseline (the pre-training phase), (b) the Training Phase, (c) the Implementation (post-training) Phase. The two phases to measure the changes in child behaviour were to be (a) Baseline (pre-implementation phase) and (b) the Implementation Phase. The commencement of the Implementation Phase for the children coincided with the commencement of the Implementation Phase for the teachers. A Follow-up Phase was planned for three weeks after the conclusion of the Implementation Phase if there had been sufficient changes in the behaviour of the teachers and children during the Implementation Phase.

The Training Programme

The training programme consisted of two sections. The first section, the training workshops, consisted of six workshops conducted for the teachers by the writer over a four week period. Each workshop was between 90 and 120 minutes in length and was carried out in the late afternoon on Mondays and Wednesdays. In the first and third week of training only one workshop was held, on the second and fourth weeks two were held.

The workshops covered the following topics (Langley, 1991): the ABC analysis of behaviour, observation and recording skills, problem analysis and goal setting, procedures

for increasing and decreasing behaviour, teaching new social behaviour, and maintenance. The first part of each workshop consisted of the researcher discussing the performance of the teachers in practising the skills which they had been taught in earlier workshops, and which they had been asked to practise using the target children in the kindergarten. The second part of the workshop consisted of discussion and questions related to the study unit which the teachers had read prior to the workshop. The teachers were able to ask any questions they had and to clarify any points which they wished to raise about the material. In addition the writer focused the teachers' attention on the most significant aspects of the material through the use of study questions which the teachers were required to answer. The third part of the workshop consisted of practical activities that enabled the teachers to rehearse the skills which they had read about. These took several forms: the use of videotape material, role plays and discussion. Sometimes several activities were used in order to allow the teachers the opportunity to rehearse a particular skill before using it with the children. The final part of the workshop session involved clarifying the practical requirements expected of the teachers in relation to the target children and giving them the written material which they were to read prior to the next workshop.

The second section of the training programme consisted of a practice and support package. This package required the teachers to implement the knowledge and skills which they had learned in the days in between workshops. The teachers were requested to monitor the target children, attend to and respond to appropriate and inappropriate behaviour, and to monitor each other in order to provide professional feedback and support for appropriate changes in teacher behaviour. The teachers were given an audio cassette that "bleeped" every three minutes in order to prompt them to locate the target children and to respond to the target children's behaviour. On a rotational basis two of the teachers agreed to take it in turns to do this while the third monitored the performance of the other two on at least one third of occasions when the "bleep" sounded. The third teacher agreed to give feedback to the other two at the end of each session.

A crucial feature of the treatment programme was the involvement of the teachers in planning it. The teachers were asked to make decisions (a) about suitable behavioural goals

and (b) about the type of reinforcement and sanctions which they thought would be most effective with the target children. The teachers believed that both of the target children knew the appropriate ways to behave and that they would respond best to a schedule of regular social reinforcement. The teachers stated that both subjects had responded to such reinforcement in the past but that it had not been systematic nor persevered with by the teachers.

Results

Interobserver Agreement

Interobserver agreement was calculated with respect to the behaviour of the two subjects and the teachers' responses on seven occasions. Table 3 shows the percentage of agreement between the two observers on these occasions.

The percentage of agreement between the two observers was 80 per cent or greater on 69 per cent of occasions for the behaviour of the children, and on 100 per cent of occasions for the responses of the teachers. On those occasions where the agreement fell below 80 per cent it ranged between 75 and 79 per cent. These percentages of agreement were within acceptable limits given the degree of movement of the subject children, the possible number of places they could move to in the kindergarten, and the need for both observers to track them without drawing attention to this fact.

Predictive Reliability of the Canterbury Social Development Scale

Table 4 shows the percentage of intervals of inappropriate behaviour of both the subject and non-subject (control) children over the observation phase of the screening process.

The results in Table 4 show that both of the boys with scores below 140 on the Canterbury Social Development Scale engaged in inappropriate behaviour at rates which

Table 3

Percentages of Interobserver Agreement for Child Behaviour Codes for the Children Identified as Behaviour Disordered and for the Teachers' Responses to their Behaviour

	Percentage of Agreement							
Day	5	12	18	30	33	44	50	Mean
Child Behaviour								
MK	77.7	90.4	96.0	89.0	78.4	80.4	75.0	83.8
RO	77.3	87.1	93.4	91.7	89.0	79.4	80.5	85.5
Teacher Responses								
All Teachers	90.1	100.0	96.4	100.0	96.4	88.5	94.5	96.4

averaged five and a half times higher than those engaged in by the three control children. This result suggested that the proposed screening procedures (together with the 140 point cut-off) were functioning to distinguish between preschool children who engaged in high rates of inappropriate behaviour from those whose behaviour fell within normal limits.

Pre-Training Teacher Reports

All three teachers responded to the four parts of the pre-training questionnaire in similar ways. All indicated similar expectations for behaviour in the kindergarten. These included respecting others and their rights, respecting property, using equipment properly, playing in a safe way, and finishing tasks before moving on to others. All indicated that

Table 4

The Percentage of Intervals Containing Inappropriate Behaviour for the Subject and Control Children During the Screening Observations

		Percentage of Intervals					
Child	Gender	Day 1	Day 2	Day 3	Day 4	Day 5	Mean
MK(s)	M	28	2	36	20	8	18.8
RO (s)	M	12	22	12	8	16	14.0
ME (c)	M	0	0	6	0	0	1.2
TM (c)	M	0	0	0	10	6	3.2
AA (c)	F	10	6	4	2	0	4.4

they thought that antisocial behaviour was learned and tended to "come from the home" and from societal influences such as television and movies. Finally, all reacted positively to behavioural methods and how these might be used to improve behaviour. One teacher expressed reservations about using reinforcement to "manipulate" children but agreed that as long as it was used in the best interests of the child it was acceptable.

Post-Training Teacher Reports

At the conclusion of the post-training period, the teachers were asked to comment on the training programme and its perceived effectiveness. All three teachers said that they thought the training had changed the way they managed the target children and all three believed that there had been a significant improvement in the behaviour of both boys. They commented on the "readability" of the readings and the practicality of the workshop sessions. All said that they had enjoyed the experience and had gained much from it.

Two of the teachers commented on how the training had helped them re-focus on the positive behaviour of the children, when it was often too easy just to notice and comment on inappropriate behaviour.

Changes in Teacher Behaviour

The numbers of positive and negative responses to MK and RO across the three phases of the experiment are shown in the top panels of Figures 1 and 2.

During the Baseline Phase the mean level of positive teacher comments given to MK and RO were insignificant, with an across phase mean level of 0.1 per 20 minutes for MK and zero for RO. During the Training Phase these levels increased slightly to 0.3 per 20 minutes for MK and 1.1 for RO. The commencement of the Implementation Phase brought little change with a level of 1.0 per 20 minutes for both MK and RO.

Negative responses to both children declined throughout the three phases of the experiment although they were low from the outset. During the Baseline Phase the mean across phase level of negative responses was 1.0 per 20 minutes for both MK and RO. During the Training Phase there was a decrease to zero for MK and 0.3 for RO. During the Implementation Phase the level for MK increased slightly to 0.5 per 20 minutes but decreased further for RO to zero.

The main feature of the teachers' responses throughout the experiment was that they did not respond to behaviour of either child much at all, and the training made little difference to this.

Changes in Child Behaviour

The changes in child behaviour which occurred following the above described changes in teacher behaviour are shown in the bottom panels of Figures 1 and 2.

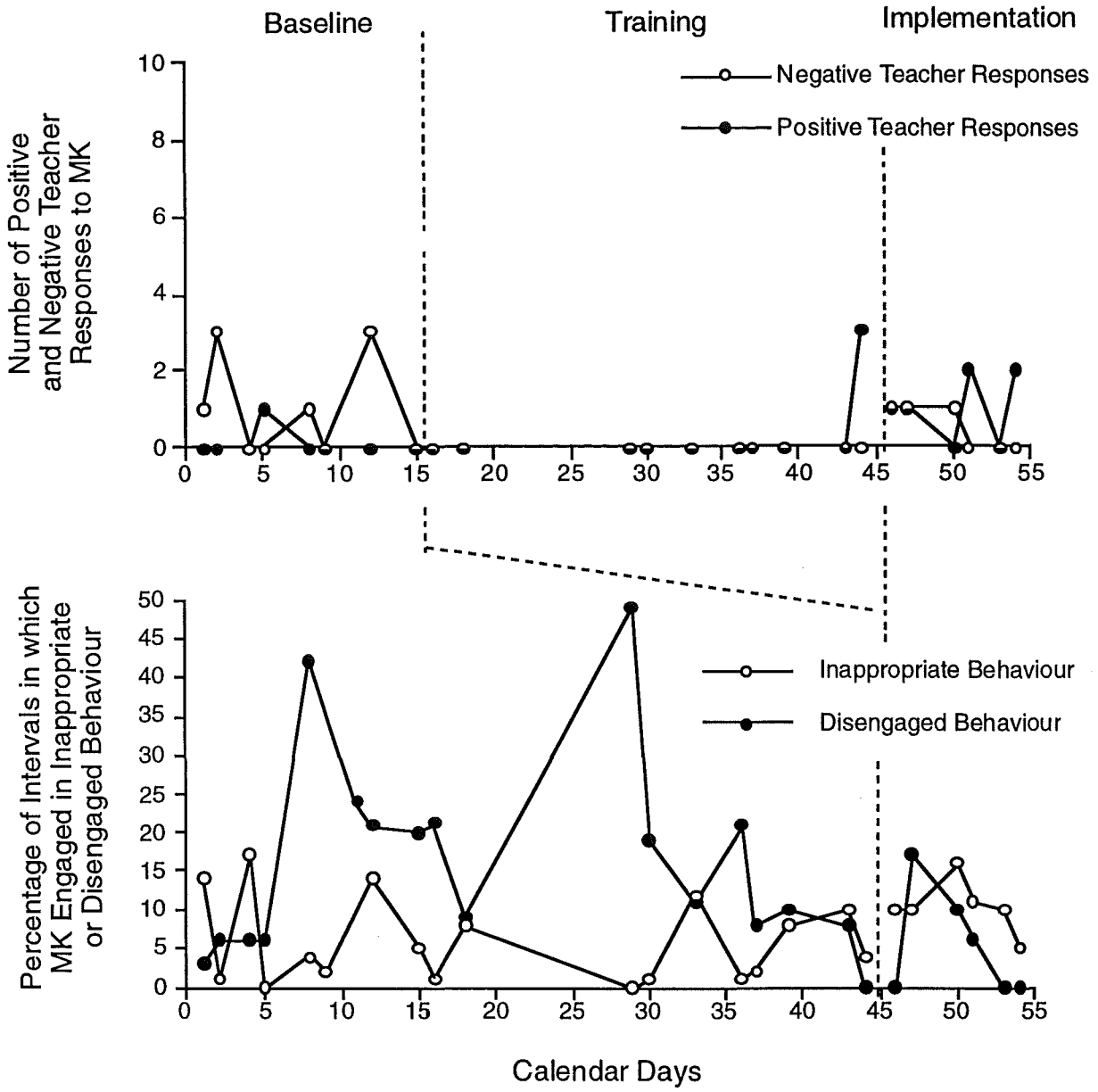

Figure 1: The number of positive and negative teacher responses to MK and the percentage of intervals in which MK was either non-engaged or engaged in inappropriate behaviour.

During the baseline Phase MK engaged in inappropriate behaviour during 5.7 per cent of intervals with a range of zero to 14 per cent of intervals. During the same phase RO engaged in inappropriate behaviour during 5.9 per cent of intervals with a range of zero to 16. The commencement of the Implementation Phase brought mixed results. MK's level of inappropriate behaviour increased to 10.4 per cent of intervals while RO's inappropriate behaviour decreased to 3.0 per cent of intervals.

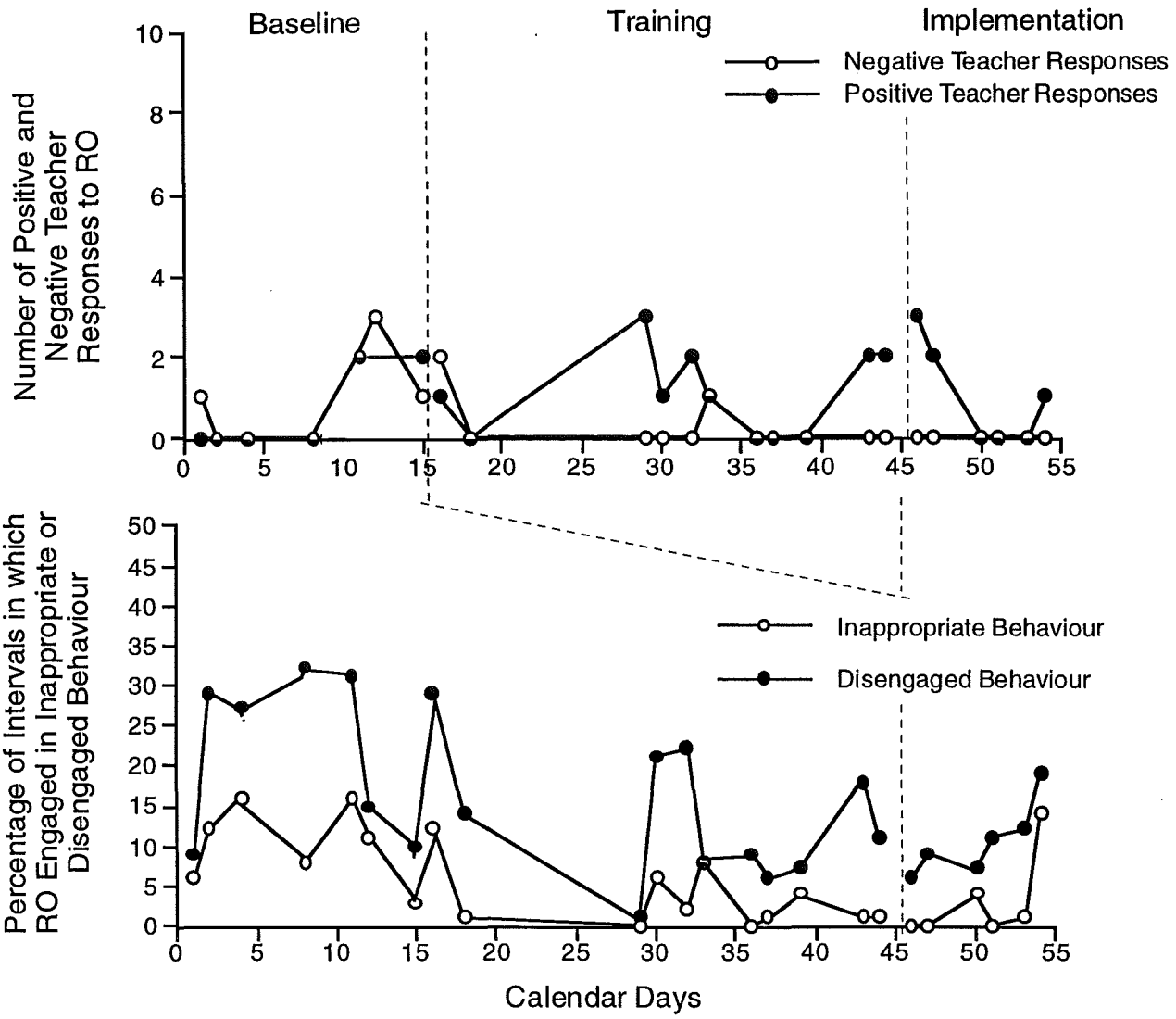

Figure 2: The number of positive and negative teacher responses to RO and the percentage of intervals in which RO was either non-engaged or engaged in inappropriate behaviour.

During the Baseline Phase both MK, 16.0 per cent of intervals, and RO, with 21.7 per cent of intervals, spent a considerable amount of their time disengaged. During the Implementation Phase this reduced to 13.3 per cent for MK and to 11.7 for RO. During the Implementation Phase MK's level of disengaged behaviour was particularly variable ranging from zero (on four occasions) to a high of 42.0 per cent on Day 29.

Discussion

Accuracy of the Screening Procedures

The first aim of the Pilot Study was to assess how accurately the three-stage screening procedure (described in Chapter Two) was able to identify those children who were behaviour disordered from those who were not. It would appear that the procedure was able to do so. The two children who had been identified by the teachers as behaviour disordered (MK and RO) scored below 140 on the Canterbury Social Development Scale (CSDS) and demonstrated baseline rates of inappropriate behaviour some five-and-a-half times greater than the three children who were selected as controls (ME, TM, and AA). The baseline rates of inappropriate behaviour for the subject and control children were described in Table 4. As a result of this data two conclusions can tentatively be reached. The first is that the three-stage screening procedure does accurately identify those children who may be behaviour disordered from those who are not. More importantly, it points to the possibility that teachers may be quite accurate in identifying these children at Stage One of the procedure and that judgements about the severity of behavioural problems by teachers may be more accurate than was initially assumed.

Experimental Procedures

The second aim of the Pilot Study was to examine the sensitivity of the experimental procedures which were used. These proved to be satisfactory with one possible exception, the length of time of each observation session. During the Pilot Study the children and teachers were observed each session for 20 minutes. While this enabled worthwhile data to be collected, it was noted by the observers and teachers that for some low incidence behaviours, such as non-compliance or aggression, this period may be a little short to reliably observe the occurrence of such behaviour. What constitutes a sufficient observation period in order to observe these behaviours is uncertain as they tend to occur as a result of

specific prompts from other children and teachers, however it was decided that in the subsequent experiments the daily observation period would be extended to 30 minutes per child in order to try to obtain a better estimate of the behaviour of the children and teachers responses.

Evaluation of the Training

The third aim of the Pilot study was to assess the effectiveness of the training programme to improve the management skills of the teachers who took part. The training programme appeared to have little effect on the management behaviour of the teachers and consequently any changes which did occur for either MK and RO were not likely to be due to changes in teacher behaviour. The changes which did occur for the children were inconsistent and not related to any specific prior change in the behaviour of the teachers. What caused the changes which did occur for MK and RO is unknown. This outcome differs from the one described by the teachers who all indicated that they had benefited throughout the training and that the subject children seemed to them to be markedly improved.

The trainer's notes and the observer's notes suggest that the teachers failed to implement the training in the manner described. First, it appears that too much control was given to the teachers too soon in the training process. When the interventions with the subject children were being planned, the teachers were given responsibility for choosing the intervention that took place. As a result of the readings and workshops, and from their existing knowledge of the two target children, the teachers recommended increased social reinforcement. The research literature suggests that differential attention alone, albeit increased, may be insufficient to bring about the desired changes with some children with behaviour disorders (Forehand, 1986; Graziano & Diament, 1992). Also, the researcher did not set any clear criteria for performance change and did not give regular and specific feedback on the teachers' performance from the beginning of the training programme. The teachers were asked to undertake this process themselves. On many occasions this

monitoring and feedback did not take place and, when it did, the teachers reported that it was often irregular as other demands in the kindergarten intervened. The research suggests that feedback which discriminates correct from incorrect performance is necessary to train parents to better manage the behaviour of children with behaviour disorders (Sanders, 1982). It would appear that this is just as necessary in the training of teachers despite their existing experience and skills.

Secondly, there were considerable logistical problems resulting from the setting and organisation that occurred there. The tape recorder that produced the "bleep" to cue the teachers to locate and attend to the subjects was difficult to hear and often produced no reaction from the teachers. The times when the teachers were supposed to meet to discuss their performance and that of the children were often interrupted by visitors or by parents arriving late to pick up their children.

The third possible reason for the weak training effects was the perception of the teachers that both they and the subject children were improving. This perception may have lead the teachers to believe that the regular monitoring and evaluation sessions were not as important as the experimenter had claimed.

Because the training produced no change in the management behaviour of the teachers, the fourth phase of the experiment, the Follow-up Phase, was abandoned.

CHAPTER SEVEN

THE EXPERIMENTS

The Pilot Study results identified several shortcomings in the training of the teachers which needed to be addressed in order to improve the effectiveness of the training programme. These were (a) the role of the trainer in establishing the treatment procedure, (b) the level of improvement in performance required of the teachers, (c) how the teachers could be more effectively prompted to perform newly acquired responses, (d) the amount of practice time allowed for prior to the implementation of the treatment, (e) the type and frequency of feedback given to the teachers on their performance, and (f) how to gradually fade the influence of the trainer following the implementation of training in such a way that the newly acquired management skills were not lost.

According to Sanders (1982) the effectiveness of a training programme which seeks to improve the behaviour management skills of parents is greatest when the components of prompting, practice, and feedback are present. This view is supported by the conclusions reached in Chapter Four where these components were identified as those necessary in order to bring about changes in the management behaviour of parents and teachers. While other components may be present in a training programme, without prompting, practice, and feedback it appears to be unlikely that much change in the management behaviour of parents will occur. Although it was thought that the teachers in the Pilot Study would not need a highly structured or trainer directed programme, the relative failure of the training would indicate that modifications to that training were required.

It was decided therefore to modify the training programme to provide five additional features. The first involved drawing a clearer distinction between the training of the teachers and the implementation of the skills they had been trained to use. This included changing the timing and delivery of the programme to allow the teachers more time to practise locating and tracking the target children before any form of intervention took place. The second involved a more active and directive role for the trainer in the problem analysis,

goal setting, and treatment design stages of the training. The third involved the identification and implementation of a criterion of acceptable performance (CAP) for positive teacher responses to the appropriate behaviour of the target children. The CAP was initially set at six positive responses per 30 minutes which meant that the teachers were required to respond to each child at about five minute intervals. The CAP of six positive responses was set for two reasons. First, the studies reviewed in Chapter Three suggest that high rates of positive reinforcement, either on a fixed ratio or fixed interval schedule, are required in order to increase the appropriate behaviour of children with behaviour disorders. Secondly, practical considerations had to be considered. Ideally, it would have been desirable to reinforce each target child on each occasion that positive behaviour was demonstrated, however in the context of a kindergarten this was not possible. After initial discussions with the participant teachers it was decided that a goal of one positive response each five minutes was likely to be effective and could be realistically implemented. The fourth involved the introduction of a more effective prompting device to alert the teachers to the need to locate one of the target children and attend to him or her. Each teacher was given their own prompting device which was a small timer set to "beep" at whatever time interval was required. The fifth involved the transfer of control of the programme from the trainer to the teachers in a gradual and controlled fashion by requiring the teachers to undertake a series of monitoring and maintenance activities following the conclusion of involvement by the trainer.

EXPERIMENT ONE

The aim of Experiment 1 was to measure the effects on teacher behaviour and child behaviour of a training programme which included, in addition to the training components used in the Pilot Study, (a) stronger trainer direction throughout each phase of the experiment and into the follow-up period, (b) the use of an individual external prompting device, (c) the setting of a CAP for the positive teacher responses to the behaviour of the two target children, and (d) the provision of daily feedback to the teachers by the trainer on their performance.

It was hypothesised that by adding these components to the training, that the teachers would reach the CAP of six contingent positive responses every 30 minutes. It was further hypothesised that if the teachers were able to increase their positive responses to this level, decrease their negative responses to near zero, and learn how to apply time out that this would, in turn, result in a decrease in the inappropriate behaviour of the target children.

Method

Setting

Experiment 1 was conducted in a kindergarten situated in the south-west of Christchurch. Forty children were enrolled in the morning session of the kindergarten.

The layout of the kindergarten was similar to that of the kindergarten in the Pilot Study. The interior was an "L" shape that comprised a number of spaces where activities were set up for the children. These included spaces for baking, puzzles, books and reading, dressing up, dolls, and a quiet area. The exterior play area contained a number of activities and pieces of play equipment. These included climbing equipment, a sandpit, a water trough, carpentry equipment, carts, scooters, and trolleys. During the course of the experiment, the children were allowed a free choice of play activities except for morning tea and mat time before going home at noon.

During each session one teacher was responsible for supervising the children who were playing indoors, one was responsible for those playing outside, and one "floated" between the two giving support where and when necessary. The area which each teacher was responsible for rotated on a daily basis so that the teacher responsible for indoor supervision on a particular day would be responsible for outdoor supervision or be "floating" the following day.

Subjects

Part A: Teachers

Each session was attended by three teachers, all of whom participated in the study. Two of the teachers had nine years experience, the third had six years. All were fully trained kindergarten teachers. The kindergarten was one of a number approached by the researcher from a list given to him by the Kindergarten Association.

None of the teachers had received any specific training in behaviour management other than that which had occurred during their preservice teacher training. All three teachers said that they felt they were deficient in the skills necessary to manage some of the children in their kindergarten and that the current advice which they had received for dealing with difficult behaviour, redirection, had proved to be consistently ineffective. All three teachers agreed to be subjects for this part of the experiment.

Part B: Children

The children for Experiment 1 were selected using the three-stage assessment procedure described in Chapter Two and evaluated during the Pilot Study. The teachers were asked to nominate the children in the kindergarten whom they considered difficult to manage and to rank them in order from most to least difficult. Four children were nominated. For each of these children, each of the three teachers independently completed

the Canterbury Social Development Scale. Only two of the four children received three ratings below the 140 required for eligibility in the experiment. Both were boys. BK, aged 4 years and 9 months, received scores of 86, 92, and 98. CY, aged 4 years and 2 months, received scores of 124, 125, and 132. As a result both BK and CY were selected as subjects for the experiment.

It is worth noting that BK and CY often interacted together in the kindergarten and that very often the other children tended to stay away from them.

BK, aged 4 years 9 months, was a large boy who was physically very strong. He had been at the kindergarten for 15 months. He lived with his grandmother as his mother was unable to cope with his behaviour at home. He was non-compliant, aggressive towards other children and the teachers, and used foul language as a normal part of his conversation. He dominated a number of outside activities in the kindergarten by dictating which pieces of equipment he wanted, who he would allow to play with them, and what roles other children could undertake in any games which he controlled. If any other child disagreed or confronted him he would almost always resort to verbal and physical abuse in order to get his own way. CY, aged 4 years 2 months, was smaller in build than BK. He had attended the kindergarten for eight months. He lived with his mother who had indicated that he was not too much trouble at home as long as few demands were placed on him. His inappropriate behaviour was mostly non-compliance and verbal abuse. He would sometimes resort to physical abuse but only rarely. CY sought out the company of BK on most days and very often the two of them " teamed up" for games and activities in the outside area of the kindergarten. These games usually involved rough physical play with scooters and trolleys on which they speeded around the perimeter of the play area, crashing into whoever got in the way.

Definitions of Behaviour

Part A: Teachers

Three teacher behaviours were recorded. The three teacher behaviours were: positive responses, negative responses, and the use of time out. Positive responses were coded when a teacher made a remark or gesture about BK or CY's behaviour which indicated approval of that specific behaviour. An example of such a response would be, "Well done BK, I like the way you waited for your turn on the scooters". Negative responses were coded when a teacher made a remark or gesture which indicated disapproval of BK or CY's behaviour. An example of a negative response would be, " Boy, am I sick of you" or "You really try my patience". Time out was coded when one of the teachers responded to inappropriate behaviour by removing BK from the activity or person he was engaged with and placing him away from the activity (but still within view of it) until either 1) BK had stopped performing the inappropriate behaviour and maintained this for two minutes or 2) BK was able to sit quietly for about two minutes if his behaviour had already stopped due to his removal from the activity.

Part B: Child

Three child behaviours were recorded. They were: appropriate behaviour, inappropriate behaviour, and non-engaged behaviour. Appropriate behaviour was defined to include (a) being engaged in an appropriate task or activity, or (b) being engaged in an appropriate interaction with other children or adults. Inappropriate behaviour was defined to include (a) engaging in a task or activity specified by the teachers as not acceptable in the kindergarten, or (b) engaging in inappropriate interactions such as physical aggression, physical disruption, verbal aggression, verbal disruption, or making threatening gestures, or (c) using inappropriate verbal behaviours such as swearing, lewd jokes and gestures, or "put down" remarks to others, or (d) damaging property, materials, or equipment. Non-

engaged behaviour was coded when the child was observed not to be engaged in any particular activity, and not to be interacting with any other child or adult. These definitions of appropriate and inappropriate were setting specific and were formulated after discussions with the teachers during which they were asked to state what was and what was not acceptable behaviour in the kindergarten and what the rules were which applied in the setting.

Observer Training

The two observers employed in Experiment 1 were the same as those employed during the Pilot Study. The training they received was described in Chapter 6.

Observation Procedure

Observation sessions were 60 minutes in length; 30 minutes for BK and 30 minutes for CY.

During each observation session one of the children was observed for 5 minutes, then the other for 5 minutes, then back to the first for 5 minutes and so on. Between each 5 minute observation block the observer(s) spent a minute or two locating the other target child and getting into a position where the child could be observed. A 10-second interval recording procedure was used. Two types of data were collected.

First, the observer coded whether the target child was engaged in appropriate, inappropriate, or non-engaged behaviour during the 10-second interval. If the child engaged solely in appropriate behaviour, the interval was coded as appropriate. If the child engaged in at least one instance of inappropriate behaviour, the interval was coded as inappropriate. If the child was non-engaged for the whole interval, the interval was coded as non-engaged. If the child engaged in both appropriate behaviour and non-engaged behaviour in the same interval, the interval was coded as appropriate. Secondly, the observer recorded the responses of the subject teachers. Each instance of positive teacher

response, each instance of negative teacher response, and each instance of the use of time out in response to the target child's behaviour was recorded.

During the observation sessions, both observers used a small battery powered timer with an ear plug that produced a signal every 10 seconds. The observers used alternate 10-second intervals to observe and then code the observations. Both had been trained to remain as unobtrusive as possible and had spent several days in the kindergarten prior to beginning data collection which meant the teachers and children were well used to them.

All observations were undertaken in the mornings. The observer waited until most of the 40 children had arrived, had been greeted, and their parents or caregivers had departed before commencing observations. This meant that observations usually began around 9.10 to 9.15 a.m. The observations concluded when the observer had collected 30 minutes of data on each child.

Interobserver agreement was obtained by having the second observer accompany the main observer on at least 20 per cent of observation sessions. Both of the observers recorded data independently of each other for each of the teachers and children while listening to a synchronised signal from their timers. Agreements for the coding of teacher behaviour were defined as intervals in which both observers recorded the same number of positive and/or negative responses to the behaviour of the target child. Interobserver agreement was calculated by dividing the total number of agreements by the total number of agreements and disagreements and multiplying the result by 100. Agreements with respect to child behaviour codes were defined as intervals in which both observers recorded the same behaviour code. The percentage of agreement was calculated in the same way as that for the teachers.

Teacher Questionnaires and Anecdotal Notes

In addition to the direct observations, two other forms of data were collected. The first was a pre-training questionnaire which asked each of the three teachers to comment on their teaching background, the expectations which they held regarding child behaviour, the

behavioural rules that operated in the kindergarten, their beliefs as to how children develop antisocial behaviour, and their views regarding behavioural methods for changing the behaviour of young children. This was done in order (a) to set up the definition of inappropriate behaviour, and (b) to identify any strong resistance on the part of the teachers to the proposed training programme. The other source of information consisted of a questionnaire which sought to collect notes and comments from the teachers at the conclusion of the Implementation Phase and prior to the collection of the follow-up data. The purpose of these was to enable the teachers to give their views on how effective they perceived the training to be in terms of its relevance to their work in the kindergarten, their management skills, and the effects on the target children. These two questionnaires are reproduced in Appendices 3 and 4 of this thesis.

Experimental Design

The effect of the training programme on the teachers' behaviour was measured using an ABCD design. The four phases were : (a) the Baseline Phase, (b) the Training Phase, (c) the Implementation Phase, and (d) the Follow-up Phase. The Implementation Phase began after the teachers had completed Workshop 4 of the training programme. The Maintenance Phase commenced five weeks after the conclusion of the final workshop run by the trainer for the teachers.

The effects of changes in teacher behaviour on the behaviour of BK and CY were measured using two concurrent ABC experiments, one involving BK and one involving CY. The three phases were: (a) the Baseline Phase, (b) the Implementation Phase, and (c) the Follow-up Phase. The Implementation Phase in this part of the experiment coincided with the Implementation Phase of the training programme for the teachers and began after Workshop 4 when the teachers were asked to begin intervening in the behaviour of the target children. The Follow-up Phase commenced five weeks after the conclusion of the final workshop run by the trainer for the three teachers.

The Training Programme

The training programme consisted of two components. The first component, the training workshops, consisted of a series of six workshops conducted for the teachers by the trainer over a period of three and a half weeks. The second component, the Practice and Support Programme (PSP), consisted of a series of phases in which the teachers were required to use the management methods which they had learned, to observe and support each other, and to meet regularly to discuss their results. The details of the workshops and the PSP are included in the PRIME Manual (Langley, 1991) and the Observational Recording Manual (Clark, Jennings, & Langley, 1991).

Each workshop was between 90 and 120 minutes in length. The workshops were held on Tuesday and Thursday afternoons, from 3.30 p.m. until 5.30 p.m. During the period of the first four workshops the teachers were not expected to undertake any practical interventions with either of the two children apart from getting into the habit of locating them at short, regular intervals and recording what the children were doing. Following Workshop 4 the teachers were required to begin their intervention with the two children. This intervention continued during the period of the last two workshops with the additional requirement of the use of time out following Workshop 5.

Each workshop began with a discussion of the homework readings and exercises, general feedback and reinforcement for the tasks that the teachers were required to carry out between workshop sessions, and an oral quiz covering the key points from the readings.

Workshop 1 contained information on the ABC model of behaviour and how the model could be used to analyse the behaviour of the two target children in the kindergarten.

Workshop 2 contained information on observation and recording. This included defining behaviour, identifying appropriate contexts for behaviour, acceptable criteria for the behaviour, and the most effective ways to measure and count different kinds of behaviours. The teachers were able to practise using both frequency recording and time sampling.

Workshop 3 contained information on problem analysis and goal setting. In this workshop the teachers worked through a seven step problem-identification model which enabled them to identify the specific behaviours of concern, the type of problem which these behaviours presented, and what kind of change would bring about the necessary improvements which were sought. The final stage in the workshop required the teachers to agree on two or three goals for each child. For BK these were (a) that he should keep his hands and feet to himself and not hit or kick others, (b) that he should speak in a "friendly" way towards others and not use certain words, and (c) that he should follow instructions and requests within one minute of them being asked. For CY the goals were (a) that he should keep his hands and feet to himself and not hit or kick others and, (b) that he should follow instructions and requests within one minute.

Workshop 4 contained two parts. The first part consisted of information on teaching children with behaviour disorders new and appropriate social behaviour. The teachers were asked to identify new behaviours which would replace the inappropriate behaviours being targeted for both children. For example, in BK's case it involved teaching him to ask for a toy instead of walking up to another child, pushing or hitting her or him and taking the toy. It was decided that the best way to teach these new skills was to do so in the situations in which they occurred. This meant that one of the teachers would wait for a suitable situation where BK would want a toy, move to him, model the appropriate behaviour to him, have him try it, and provide immediate praise and a stamp when he did it. The teachers also organised situations which would require BK to practise this new "asking" behaviour both with them and the other children. When he did so correctly he immediately received a stamp (or sometimes two). The second part of Workshop 4 consisted of how to increase the occurrence of the new appropriate behaviours through the application of reinforcement procedures. This workshop examined the different strengths of reinforcers that could be used with young children and how they could be delivered to the two children during daily sessions. It was decided that both of the children would initially require primary reinforcers in order to provide sufficient incentive to use the newly learned social behaviours. The teachers were to take it in turns to target each of the children and attend to them every five

minutes. If the children were behaving appropriately the teachers were required to give them contingent praise and to stamp a card which BK and CY carried in their pockets. Once the child had three stamps they could exchange these for a lolly from the " dip jar" or 10 minutes on the scooters. If all of the scooters were being used at that time, the child was required to wait for a few minutes until one became available. When the time on the scooters was up the teacher would ask for them back so someone else could have a turn. If the request was complied with, the child was praised for doing so and received another stamp. Although the teachers were required to reinforce any appropriate behaviour which they observed, they were asked to pay particular attention to the specific behaviours which were targeted for each child. If they observed either of the children performing these they were to make a special mention of it and give the child two stamps.

Workshop 5 contained material on how to decrease inappropriate and antisocial behaviour. Emphasis was placed on the use of "sit and watch", an inclusionary time out procedure appropriate for young children in a kindergarten setting. The procedures for using the "sit and watch" procedure are described in Langley (1991). The teachers and the trainer decided that this procedure would be appropriate to use with BK, who demonstrated high rates of both verbal and physical aggression towards others, but would not initially be used with CY, whose inappropriate behaviour occurred at much lower rates and consisted mainly of non-compliance rather than aggressive acts towards others. It was thought that in CY's case a sufficiently strong incentive would most likely provide enough motivation to perform the desired behaviours. This workshop also covered the ethical requirements governing the use of time out.

Workshop 6 contained material on maintenance. This included ways in which the teachers could continue the changes made in their own management behaviour and thus maintain the improvements made by the target children. Full details of the content of each workshop session is described in detail in Langley (1991).

The Practice and Support Programme (PSP) also consisted of five phases designed to complement the workshops by prompting the practice of the newly learned management procedures in the relevant setting. Phase 1, which was introduced during Workshop 2,

required each teacher to track one of the target children for an hour during daily sessions, and to record the child's behaviour. The purpose of this was to enable the teachers to practise monitoring the children in a structured and systematic fashion. Phase 2, which was introduced a week later during Workshop 4, required the teachers to take responsibility for instructing the two children in new social behaviours and to begin attending to, and reinforcing, the appropriate behaviour of the target children at a rate of no less than 12 times per hour. The two children carried a small card in their pockets that the teachers were to stamp in addition to giving contingent praise. In addition, one of the three teachers was given the task of supporting the other two teachers each day, either by also attending to the behaviour of one of the target children or by socially reinforcing the teachers who were doing so. Phase 3, which was introduced during Workshop 5, required the teachers to respond to physical and verbal aggression from BK by using the "sit and watch" procedure. This was in addition to the reinforcement programme which had already been implemented. Phase 4, which was introduced during the final workshop required the teachers to implement systems to monitor the behaviour of the target children, develop decision-making rules for changing the intervention programmes, and to meet on a daily and weekly basis to review the intervention programmes.

The role of the trainer in the Practice and Support Programme was as follows. First, the trainer provided direction with respect to the type and frequency of reinforcement that would be needed to provide sufficient incentive for the target children to change their behaviour. Secondly, the trainer advised the teachers on the use of the "sit and watch" method and who it might be needed for. Thirdly, the trainer set the CAP for positive teacher responses at 6 per 30 minutes. This was determined on the basis of one response every five minutes from the teacher who was responsible for tracking the child on that day, plus at least one other positive response from the teacher in the supporting role on that day. Fourthly, the trainer gave the teachers daily feedback on their performance and whether or not they had reached their CAP on the previous day. If their performance had reached the required standard the trainer reinforced the teachers by giving them specific feedback on their performance and whether or not they had reached the CAP that day. In addition, if the

teachers were able to reach required standards on four days out of five the trainer provided them with tangible reinforcement, usually in the form of afternoon tea which was presented to the teachers at the conclusion of work on the fifth day. It was also agreed that if the teachers could reach the CAP for positive responses on 80 per cent of occasions during the Implementation Phase of the experiment the trainer would come into the kindergarten and work for three mornings and release each of the three teachers in turn. This incentive was one which had been suggested by the teachers prior to the commencement of the experiment. The teachers were able to choose what they did during this release time.

Results

Interobserver Agreement

Interobserver agreement was calculated for the behaviour of the subject teachers and the target children's responses on seven occasions. The percentages of agreement are given in Table 5.

Table 5

Percentage of Interobserver Agreement for Child Behaviour Codes for the Children Identified as Behaviour Disordered and the Teachers' Responses to their Behaviour in Experiment 1.

	Percentage of Agreement							
Day	9	16	22	28	29	36	37	Mean
Teachers	100.0	100.0	95.5	88.0	88.0	100.0	89.3	94.4
BK	80.7	89.3	85.3	78.1	84.2	88.0	78.0	83.4
CY	92.0	84.7	89.3	82.5	85.4	absent	88.0	87.0

The percentage of agreement for the two observers was 80 per cent or greater on 84.6 per cent of occasions for the recorded behaviour of the children and on 100 per cent of occasions for the recorded behaviour of the teachers. This was judged to be acceptable given the degree of movement of the subject children, the possible number of places they could move to in the kindergarten, and the need for both observers to track them without drawing attention to this fact.

Pre-Training Teacher Reports

All of the teachers responded to the four parts of the pre-training questionnaire in similar ways. All had similar expectations for behaviour in the kindergarten. This included respecting other people and their rights, respecting property, using equipment appropriately, playing in a safe way, and attempting to finish at least some tasks.

All indicated that they thought that antisocial behaviour was learned and tended to be learned at home, although one of the teachers said that some children seemed to have a pre-disposition to behave in this fashion. Another mentioned that different types of food seemed to have an affect on the behaviour of some children, but agreed that this alone could not explain the very antisocial behaviour demonstrated by many children. Finally, all of the teachers had a positive attitude towards behavioural methods and how these might be used to improve child behaviour.

Post-Training Teacher Reports

A week after the conclusion of the workshops, during a follow-up visit by the trainer, the teachers were asked to comment on the programme. The teachers were asked to comment under six general headings. These were, the training programme itself, the requirements which the programme placed on them, the success of the programme, the effect of the programme on the children, work that the teachers had done with parents/caregivers, and their personal feelings about the programme. All three teachers commented positively under all of the headings. They commented that the training had

made them more aware of what they were doing, not only with the target children, but also with other children which they were dealing with on a daily basis. One teacher noted that she had come to view BK in a much more positive way and was no longer reluctant to approach him or make requests of him.

Changes in Teacher Behaviour

The changes in teacher behaviour which occurred following the commencement of the Implementation Phase of the experiment are shown in the top panels of Figures 3 and 4.

During the Baseline Phase the positive responses given to BK and CY by the three teachers varied greatly. For BK the range was from 1 to 10 responses per 30 minutes with an across phase mean level of 5.2 per 30 minutes. During the same phase the positive responses given to CY were negligible, with a mean across phase level of only 0.3 per 30 minutes. During the Training Phase the initial effect was a slight reduction in the levels of positive responses to BK and a slight increase to CY. The positive responses to BK varied between 1 and 16 per 30 minutes at a level of 4.0 per 30 minutes. During the same phase the number of positive responses to CY rose to 1.7 per 30 minutes which, while still at a low level, showed a slight upward trend. During the Implementation Phase the number of positive responses given by the teachers to both children rose markedly. In BK's case the level increased to 8.8 per 30 minutes with a range of 2 to 14. For CY the level rose to 7.1 per 30 minutes with a range of 4.0 to 11.0. The follow-up data, taken five weeks later, showed that the positive responses of the three teachers had fallen to a mean level of 5.4 per 30 minutes with a range of 2.0 to 10 for BK and to 2.4 per 30 minutes, ranging from 2 to 3 for CY. These rates are similar to those observed during the baseline phase.

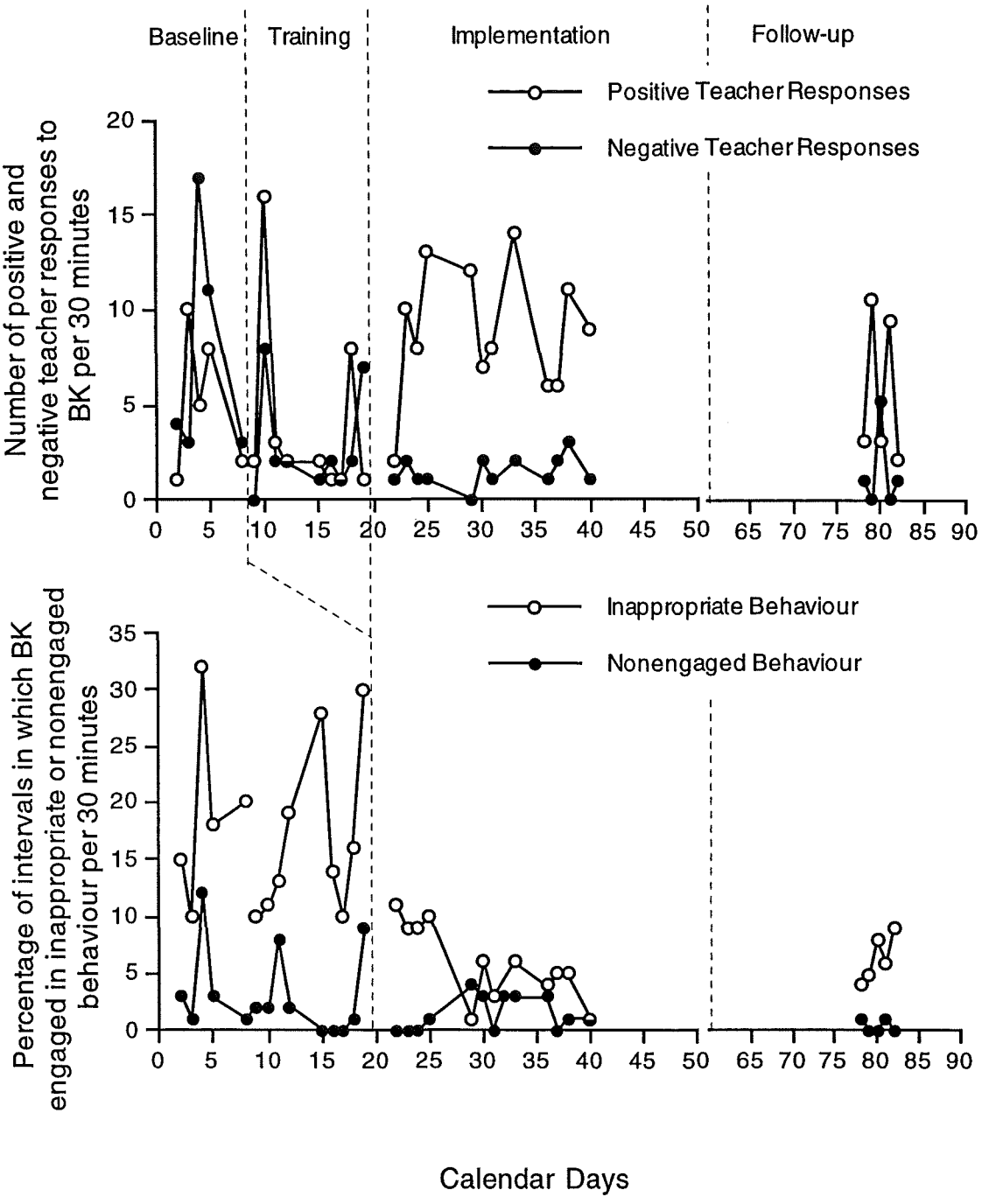

Figure 3: The number of positive and negative teacher responses to BK and the percentage of intervals in which BK was either non-engaged or engaged in inappropriate behaviour.

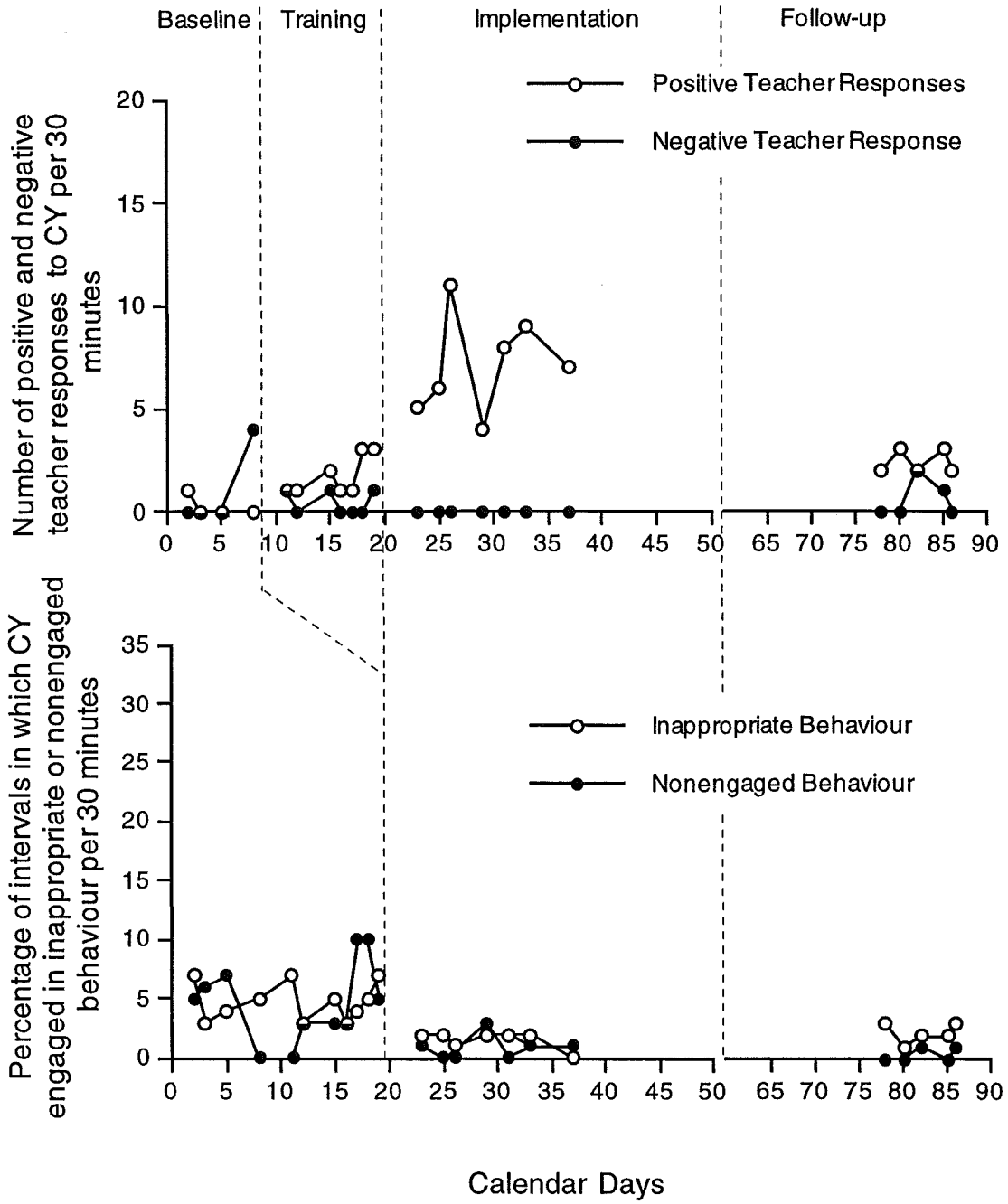

Figure 4: The number of positive and negative teacher responses to CY and the percentage of intervals in which CY was either non-engaged or engaged in inappropriate behaviour.

During the Baseline Phase the negative responses given to BK and CY again varied considerably. In the case of BK they fluctuated between 4 and 17 per 30 minutes, with a mean level of 7.6 , while for CY the negative responses were only at the mean level of 1 per 30 minutes. During the Training Phase the negative responses to both children fell, to a level of 2.8 across the phase for BK and 0.4 for CY. During the Implementation Phase the number of negative responses to both children was negligible falling to a level of 1.1 per 30 minutes for BK and to zero for CY. Unlike the positive responses, which moved back towards baseline levels by the time the follow-up data was taken, the teachers' negative responses remained at very low levels during the Follow-up Phase remaining at a level of 1.4 per 30 minutes for BK and 0.6 per 30 minutes for CY

In addition to changes in the positive and negative responses to the two children, for BK the teachers also used the " sit and watch" procedure when he was either physically or verbally aggressive towards others. This procedure was used during the Implementation Phase on four separate days; Day 22 (three times), Day 23 (four times), Day 28 (twice), and Day 33 (twice). It was not used at all during the Follow-up Phase.

Although no specific data was collected on whether or not the teachers stamped BK's and CY's cards and supplied the tangible reinforcers as agreed, both the trainer and observers observed them doing so on a number of occasions during their visits to the kindergarten. In fact, the second observer commented that on one day she was present the teachers " hardly ever left BK and CY alone". The afternoon tea and release time contingencies, which were to be provided if the teachers met their positive response goals, were provided by the trainer.

Changes in Child Behaviour

The changes in child behaviour which occurred following the above described changes in teacher behaviour are shown in the bottom panels of Figures 3 and 4.

During the Baseline Phase BK engaged in inappropriate behaviour during 17.5 per cent of recorded intervals, ranging from 10 to 32 per cent of intervals, while CY's

inappropriate behaviour averaged 4.8 per cent of intervals with a range of 3 to 7. With the commencement of the Implementation Phase there was a clear change in the behaviour of both children. During this phase there was a more than a three-fold reduction in BK's inappropriate behaviour, reducing to a level of 5.5 per cent of intervals and with a steady downward trend. Towards the end of the phase his level of inappropriate behaviour was, in fact, below 5 per cent of intervals and still declining. There was also a three-fold reduction in CY's to a level of inappropriate behaviour to only 1.7 per cent of intervals and a stable trend. The follow-up data, taken five weeks later showed a slight increase in the level of BK's inappropriate behaviour to 6.4 per cent of intervals and similarly for CY to a level of 2.2 per cent of intervals.

The level of non-engaged behaviour for both BK and CY was relatively low during the Baseline Phase and reduced to minimal levels during the Implementation Phase. In BK's case some 3.2 per cent of intervals were spent non-engaged during the Baseline Phase. During the Implementation Phase this dropped to 1.3 per cent of intervals and further to 0.4 per cent when the follow-up data was taken. For CY the level dropped from 4.8 during the Baseline Phase to 1.1 during the Implementation Phase and further to 0.4 per cent during the Follow-up Phase.

Discussion

Changes in Teacher Behaviour

The training and PSP programme produced clear changes in the differential attention and use of "sit and watch" management behaviours of the teachers. The teachers doubled their positive responses to BK and quadrupled their positive responses to CY from the Training to the Implementation Phases. It also produced reductions in negative responses of the teachers by some seven times for BK and eliminated them altogether for CY. In addition the teachers used the " sit and watch" procedure for the first time during the Implementation Phase.

The level of differential attention achieved during the Implementation Phase was not maintained into the Follow-up Phase. Although negative responses were maintained at a low level, there was a reduction in the level of positive responses from the teachers. After five weeks the number of positive responses had reduced to near baseline levels and the "sit and watch" procedure had ceased to be used.

The changes in all three classes of teacher behaviour did not occur during the Training Phase, when the teachers were undertaking the initial workshops, but at the onset of the Implementation Phase when the teachers were asked to begin to practise the skills which they had been taught. This required them to increase their positive responses to appropriate child behaviour, reduce their negative responses to child behaviour, and to use the "sit and watch" procedure for specific behaviours in the case of BK.

During the Pilot Study the teachers were asked to use the skills which they had been taught but were not systematically prompted to do so, they were not given any performance criteria to aim for and they did not receive regular feedback which gave them information about the level of their performance. The results of the Pilot Study showed that the teachers did not change their management behaviour.

There were five major differences between the training programme which was used in the Pilot Study, and which had little effect, and the one used in this experiment. These were (a) the clear distinction between the Training Phase and the Implementation Phase that occurred in this experiment, (b) the increased trainer direction, (c) the establishment of clear performance criteria for the teachers, (d) the use of a systematic external prompt in order to elicit the newly learned behaviours from the teachers, and (e) the provision of daily feedback and reinforcement for the teachers when they met their goals. In addition, the trainer provided periodic rewards which were contingent on the teachers' attaining a specified level of performance. These changes appear to have produced changes in the teachers responses to the behaviour of BK and CY.

Changes in Child Behaviour

The behaviour of both of the children changed during the Implementation Phase. The Implementation Phase for the children coincided with the commencement of Implementation Phase for the teachers. For both BK and CY there were sizeable reductions in the numbers of inappropriate behaviours engaged in. BK's inappropriate behaviour reduced to 29 per cent of its baseline level which was particularly important as his relatively high rates of verbal and physical aggression were of significant concern to the teachers and the parents of a number of the children in the kindergarten. CY's inappropriate behaviour reduced to 33 per cent of its baseline level. Both of these are sizeable reductions and, as they occurred for both children at the onset of the change in teacher responses to the behaviour, it can be concluded that the changes in teacher behaviour were responsible, at least in large part, for the changes in the behaviour of the two children. However, the teachers made several changes to the way in which they responded to BK and CY. These included targeting appropriate behaviour, instructing the two children in specific social skills, contingently reinforcing appropriate behaviour, using tangible reinforcers, reducing the negative remarks they made to BK and CY and, finally, in BK's case, using inclusionary time out. It is not possible from this experiment to say which of these changes was responsible for the changes which occurred in BK and CY's behaviour.

The follow-up data showed a slight rise in the rates of inappropriate behaviour for both children with an upward trend for BK but a flat trend for CY. However both children remained well below baseline levels. While the teachers' positive remarks reverted to almost baseline levels, the improvements in the children's behaviour showed no such decline.

One possible reason why the changes in the behaviour of BK and CY were maintained is that BK and CY began to receive reinforcement for their improved social behaviour from their peers as well as the teachers. One of the observations which the main observer reported was that other children seemed to be responding to them in a more

"friendly" fashion and seemed more prepared to include them in games and activities. In part this may have eventuated as a result of changes in the pattern of play of both BK and CY. These changes included such things as playing both inside and outside (instead of exclusively outside), playing with a wider range of children, being prepared to use a wider range of equipment, becoming involved in a wider range of tasks (such as music and stories), and having established relationships with some children which were equitable rather than one-sided and dominant. It is worth noting that not long after the conclusion of the Implementation Phase, BK was invited to another child's birthday party, the first time such a thing had happened. As these changes continued after the Implementation Phase was completed, it is possible that they contributed to the maintenance of BK and CY's improved behaviour even although the teachers did not continue to use the relatively high rates of positive remarks which they had during the Implementation Phase.

Clearly, the feedback which teachers receive on their performance is a crucial component of any effective training programme (Sanders, 1982). Without regular feedback there is no accurate and reliable way for the teachers to receive information about changes in their performance (Rose, 1994).

Feedback, however, is a somewhat general term. There are several questions related to the delivery of feedback which could influence its effectiveness (Bernstein, 1982). These include when it is given, what level of performance it is given for, who provides it, and whether or not it should be based on the changes in teacher behaviour or on that of the children they are working with.

The question of when feedback is given identifies a number of distinguishable practices: feedback provided instantaneously by the trainer throughout a session, feedback provided at the conclusion of a session, or feedback provided after several sessions. In a number of studies feedback has been given instantaneously to the parent or teacher by the trainer (e.g. Budd, Green & Baer, 1976; Cooper, Thompson & Baer, 1970; Zeilberger, Sampen & Sloan, 1968). In order to provide immediate feedback the trainer must be present during the practice sessions. Individual parent or teacher management behaviours

are responded to as they occur during the training session with corrective feedback given if necessary. The second kind of feedback is that is which delivered at the conclusion of a single session. It is feedback about the teachers' performance during that session (e.g. Weinrott, Bauske, & Patterson 1979). In these cases the parents or teachers have usually been taught behaviour management skills in workshops prior to the practice session. The feedback is given by the trainer in person or by telephone. The third kind of feedback is that which is delivered during a subsequent workshop session (e.g. Kelley, Embry & Baer, 1979; Isaacs, Embry & Baer, 1982; Webster-Stratton, 1984). The parents or teachers are given feedback on their performance following a previous workshop at the next workshop. All three of these approaches have been used in training programmes which have produced changes in the management behaviour of teachers and parents.

While it seems clear that training programmes may be effective if feedback is given at different times in the training process, it is less clear what the feedback should be contingent upon, who should give the feedback to maximise its effectiveness, or whether the feedback should be based on improvements in the behaviour of the teachers or on that of the children they are targeting. The aim of the Experiments 2, 3, and 4 was to explore these questions in an attempt to identify how, and by whom, feedback can be most effectively delivered in programmes which attempt to train teachers to better manage children with behaviour disorders. Experiment 2 explored the effects of failing to provide the teachers with an explicit performance criterion before feedback was given. Experiment 3 explored the effects of having the teachers deliver feedback to each other rather than having the trainer do so. Finally, Experiment 4 explored the effects of giving the teachers feedback which is contingent on changes in the behaviour of the target children rather than on changes in their own behaviour.

EXPERIMENT TWO

The question of whether feedback should or should not be related to specific levels of teacher performance is an important one for any training programme. The level of differential attention which is needed to improve the behaviour of children with behaviour disorders is not known. Consequently, decisions regarding what constitutes an acceptable level of social reinforcement have tended to be made, not on the basis of parent or teacher behaviour, but on the basis of changes in the behaviour of the children they are training (Cooper, Thompson & Baer, 1970; Reisinger, 1982).

However, if the aim of the training programme is to bring about the optimum amount of improvement possible within the setting, it would seem more appropriate to set some clear performance goals for the behaviours which are being trained (Rose, 1994). In Experiment 1 the teachers were given a clear idea of the level of positive responses which were required by the trainer (6 per 30 minutes) and the feedback which they received was based on whether or not they attained that level. This resulted in improvements in teacher behaviour which consistently bettered the CAP which had been set.

In Experiment 2 the aim was to measure the effects of failing to provide an explicit CAP for positive teacher responses. To accomplish this, no specific improvement goal was set by the trainer, only that the teachers should better the level of positive responses which they gave to the children during the Baseline Phase. It was hypothesised that by removing the requirement for a specific daily performance goal the level of positive responses given by the teachers would be lower and less consistent, and that if this occurred, lesser changes in child behaviour would be observed.

Method

Setting

Experiment 2 was conducted in a kindergarten in the cental suburbs of Christchurch. The kindergarten had 38 children who attended the afternoon session during the time of the experiment.

The layout of this kindergarten was a little different from that in the Pilot Study and Experiment 1. The indoor playing area was inside an old wooden building with a large interior space which was partitioned off into different areas of interest for the children to play in. The building also had a verandah along one wall and french doors that opened onto it. These doors were often open, which gave the place an indoor-outdoor affect that the previous two kindergartens did not have. The outdoor play area contained a range of activities and pieces of equipment such as a sandpit, water trough, carpentry table, climbing ropes, carts, scooters, and trolleys.

During each session the supervision arrangements were the same as those of the teachers in Experiment 1, although the indoor-outdoor environment which existed in this kindergarten often meant that there was a greater amount of interchange between the teachers than had been the case in the Pilot Study and Experiment 1. For instance, in this kindergarten it was much more possible for the teacher working inside to observe and intervene with children who were outside than in the other kindergartens.

Subjects

Part A: Teachers

Each session was attended by three teachers. All three were fully trained kindergarten teachers two of whom had over 20 years experience in working in a kindergarten, while the third was in her third year.

As was the case for Experiment 1, none of the teachers had received any specific training in behaviour management. The two more experienced teachers said that they learned through experience what worked and what did not. The less experienced teacher said that she had done a course on behaviour management of "some kind" while training but could not remember much about it except that you were not supposed to isolate children as it was bad for them. All three teachers said that the demands being placed on them by the behaviour of some children were increasing and that they often felt inadequate in terms of their effectiveness in dealing with some children. All three teachers agreed to participate in this experiment.

Children

The children for Experiment 2 were selected using the same procedure as those used in Experiment 1. The teachers identified and nominated five children whom they found difficult to manage. After independently completing the Canterbury Social Development Scale for each of the five children, three consistently scored below the 140 required for selection into the experiment. One of these children was eliminated from the experiment because his parents were about to move house and it was thought he might not attend the kindergarten long enough to complete the experiment.

The children who were finally selected were ST, aged 4 years and 9 months, who received scores of 88, 96, and 98 from the three teachers on the CSDS and BE, aged 4 years and 3 months, who received scores of 94, 100, and 106.

ST was a small child who lived with his mother. He had been at the kindergarten for three months, having recently moved into the area. He was non-compliant, frequently mis-used the equipment (often breaking it), and was loud and verbally aggressive, often threatening other children if they did not do as he wanted. He usually played on the outside activities, although he also liked painting and would sometimes come inside and move to the painting corner. BE lived with his mother and father. He had been at the kindergarten for six months. BE's main presenting problem was non-compliance. He seldom followed

requests or instructions and would, on occasions, do the exact opposite. For example, when asked by the teachers to come inside for mat time BE often ran outside and either hid or climbed a tree. His parents reported similar problems at home and said that they had given up asking him to do anything. In addition to the non-compliance BE was also unable to take turns if he wanted to use a piece of equipment. Instead he tended to go up to the child who was using it, push them, and take it.

Definitions of Behaviour

The definitions of behaviour for both the teachers and children were the same as those used in Experiment 1.

Observation Procedure

The same observers and observation procedure were used in Experiment 2 as had been used in Experiment 1.

Teacher Questionnaires and Anecdotal Notes

Teacher questionnaires were issued to the teachers prior to, and immediately following the Implementation Phase, as they were in Experiment 1.

Experimental Design

The designs used to measure the effects of training on the teachers and to measure the effects of changes in teacher behaviour on child behaviour were the same as those used in Experiment 1.

Training Programme

The major components of the training programme remained the same as those used in Experiment 1. The workshops in Experiment 2 were held on Wednesday and Friday afternoons between 1.00 p.m. and 3.00 p.m. It was on these afternoons that kindergarten teachers have non-contact time for home visiting. The teachers in this case decided to use this time for the training. The sequence of workshops was the same as that for Experiment 1.

What differed in Experiment 2 was that no CAP was provided for the positive responses of the teachers. In Experiment 2 the trainer continued to (a) provide direction on the type of intervention programme most likely to work with the two target children and (b) to provide daily and weekly feedback to the teachers on their performance. In Experiment 2, however, the trainer did not establish and set a CAP for positive teacher responses. Instead, the teachers were told to set their prompting devices at five minute intervals and respond to their particular target child when they were cued. The daily feedback provided by the trainer was of a more general nature in this experiment. It consisted of praise and encouragement if the teachers had bettered the mean baseline level of positive responses during the previous session, however the teachers were never told what their actual performance level had been, only whether their performance was adequate or not. If it was not they were asked to listen more carefully to their prompting devices the next day.

In this experiment the goals set for ST were (a) that he should follow requests and instructions within one minute, (b) that he should use the equipment correctly, and (c) that he should speak in a "friendly" and polite manner towards other children and adults. The goals for BE were (a) that he should follow requests and instructions within one minute, (b) that he should ask for something he wanted and be prepared to wait for it if it was being used.

The treatment programme for the two target children in this experiment was very similar to that in Experiment 1. The children were to receive verbal praise (contingent on appropriate behaviour) approximately every 5 minutes. This was to be recorded with a

small sticker on the hand or arm. When the children had three of these they could exchange them for a menu of options, including time on a preferred activity, a "quiet time" spent one-to-one with one of the teachers, or a dip from the "Dip Jar". The teachers in this experiment wanted to avoid using the sit-and-watch procedure as they felt uncomfortable with it and thought it contradicted Ministry of Education guidelines about the removal of a child from a setting. It was agreed initially to use a strong incentive programme and evaluate its effectiveness.

In Experiment 2 the trainer promised to provide afternoon tea if the required level of improvement had occurred on four out of five days each week. It was also agreed that if the teachers could demonstrate improved levels of positive responses on 80 per cent of occasions across the Implementation Phase the trainer would provide each teacher with a half day of release time.

Results

Interobserver Agreement

Interobserver agreement was calculated for the behaviour of the teachers' responses and children's responses on seven occasions. Table 6 shows the percentage of interobserver agreement on these occasions.

The percentage of agreement between the records of the two observers reached 80 per cent or greater on 86 per cent of occasions for the behaviour of the children and on 100 per cent of occasions for the behaviour of the teachers.

Pre-Training Teacher Reports

The teachers' responses to the pre-training questionnaire were very similar to those of the teachers in Experiment 1. There was one teacher in Experiment 2, the least experienced of the three, who expressed some reservations about the possibility of using behavioural methods. She said that while she had nothing against such methods, she felt that they could

easily be abused. When asked by the trainer whether or not she would be prepared to use some behavioural strategies in the experiment she agreed.

Table 6

Percentage of Interobserver Agreement for Child Behaviour Codes for the Children Identified as Behaviour Disordered and the Teachers' Responses to their Behaviour in Experiment 2.

	Percentage of Agreement							
Day	3	7	16	19	33	34	80	Mean
Teachers	98.5	100.0	98.5	95.5	100.0	95.5	88.0	96.6
ST	84.2	78.2	93.3	93.3	85.0	85.0	84.2	86.2
BE	86.7	81.7	86.7	82.0	81.3	78.0	81.3	82.5

The other two teachers were quite comfortable with such methods. Both said that over the years they had worked out, both as parents and teachers, that consequences were important and that they had to be used effectively.

All three teachers in this experiment expressed reservations about the use of "sit and watch". They had concerns about its legality in a kindergarten and said that one of their concerns was how to manage some children when alternatives were not readily suggested.

Post-Training Teacher Reports

At the conclusion of the workshops, during a follow-up visit by the trainer, the teachers were asked to comment on the programme. The teachers were asked to comment under the same headings as in Experiment 1. All of the comments made by the teachers were positive about the training and its effects on both ST and BE. The teachers were especially pleased that BE's parents had shown a high level of interest in the newly acquired

responses of the three teachers, and, as a result, wanted to learn those skills in order to apply them in the home. On several occasions BE's mother had attended the kindergarten to watch the teachers management of BE.

Perhaps the most noticeable comment from the teachers was that the programme had helped them to re-focus on the positive behaviour of the target children instead of complaining about the negative behaviour which, they admitted, was a pattern they had fallen into. One of the teachers also said she felt that the training had made her more positive to the children generally.

Changes in Teacher Behaviour

The changes in teacher behaviour which occurred following the commencement of the Implementation Phase are shown in the top panels of Figures 5 and 6.

The positive responses given to ST and BE by the three teachers showed a similar pattern in each phase of the experiment. During the Baseline Phase the number of positive responses received by ST ranged from 0 to 5.0 with a mean level of 1.6 per 30 minutes across the phase, while those received by BE ranged from 0 to 4.0 with a mean level of 1.8 per 30 minutes.

During the Training Phase the positive responses to ST's appropriate behaviour altered little with a mean level of 1.4 responses across the phase. During this phase the positive responses to BE showed a clear downward trend with the exception of Day 19, where they numbered 12. The reasons for this very high number are uncertain. During the the Implementation Phase the mean level of positive responses given to ST rose to 5.1 per 30 minutes with an upward trend, however there was considerable variability from day-to-day with a range across the phase of 0 to 13. On only two days did the number of positive responses to ST rise above 6 per 30 minutes. There was also an upward trend in the positive responses given to BE, but once again there was considerable variability with range of 0 to 11 across the phase with greater than 6 being given on only two days. The mean level of positive responses given to BE during this phase was 5.4 per 30 minutes. The

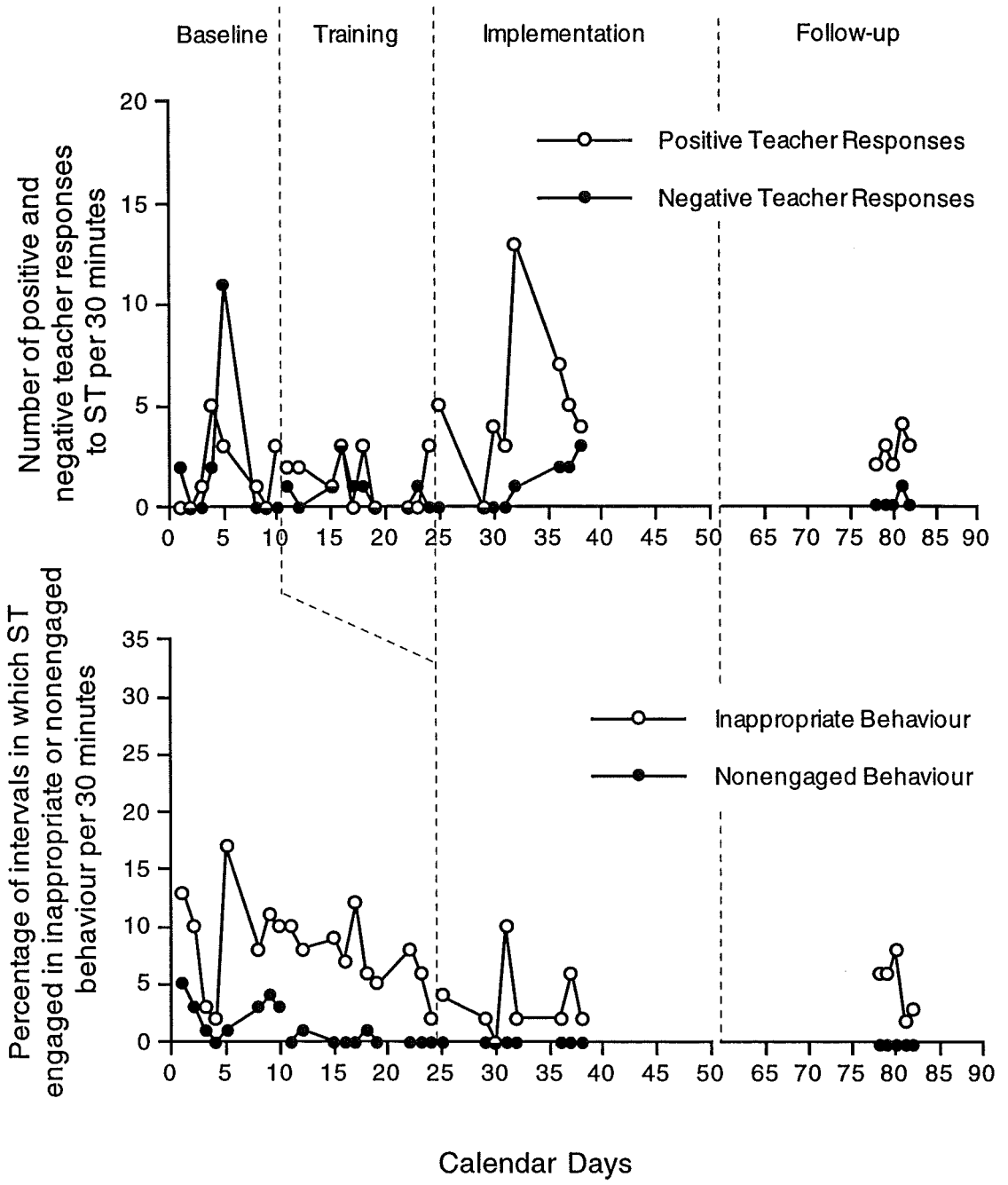

Figure 5: The number of positive and negative teacher responses to ST and the percentage of intervals in which ST was either non-engaged or engaged in inappropriate behaviour.

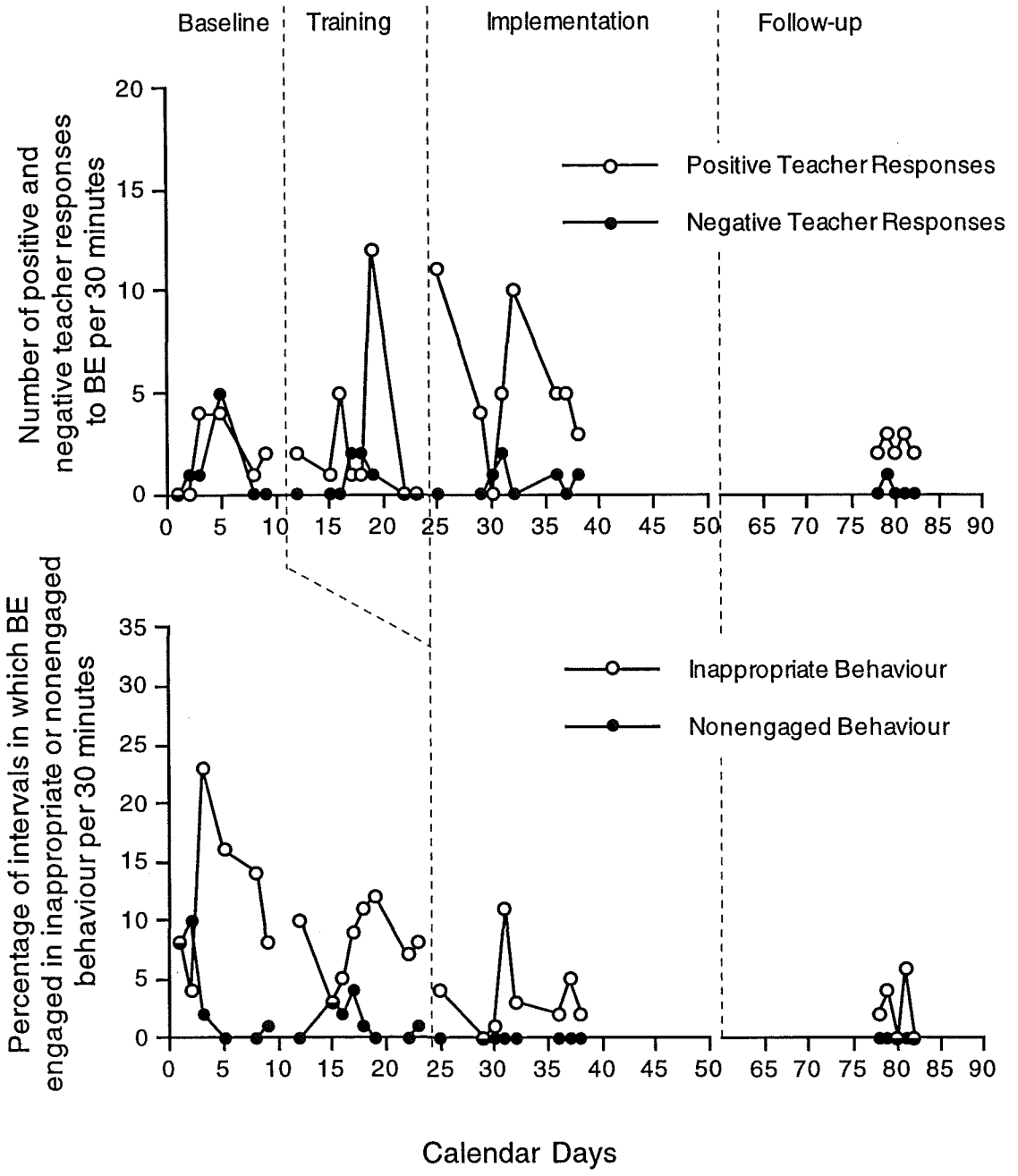

Figure 6: The number of positive and negative teacher responses to BE and the percentage of intervals in which BE was either non-engaged or engaged in inappropriate behaviour.

follow-up data, taken five weeks later, showed that the mean level of the positive responses of the three teachers to both ST and BE had almost halved from what they had been during the Implementation Phase to 5.4 per 30 minutes for ST and 2.4 for BE. However they were only slightly lower than the levels which had existed during the last three days of the Implementation Phase, where the number of positive responses had decreased to 5 or less for both children.

The number of negative responses given to ST and BE by the three teachers were similar in each phase of the experiment and had the distinguishing characteristic of being relatively low from the beginning of the Baseline Phase. During the Baseline Phase the number of negative responses for ST was never greater than 2 on any day with the exception of Day 5 when he was given 12 negative responses. During the same phase the negative responses of the three teachers to BE reached a mean level of 1 with a range of 0 to 5. During the Training Phase the levels of negative responses to both children reduced slightly, declining to 0.8 per 30 minutes for ST and 0.6 for BE. During the Implementation Phase the negative responses remained at a similar level for BE (0.6 per 30 minutes), however there was an increasing trend in the number given to ST. In fact, on Days 36, 37, and 38 of the Implementation Phase the number of positive responses given to ST had fallen to 7, 5, and 4 while the number of negative responses had risen to 2, 2, and 3 respectively thereby reducing any differential reinforcement effect which may have previously existed. The negative responses given to both ST and BE were at a low level during the Follow-up Phase, decreasing to a mean level of 0.2 per 30 minutes for ST and BE and with stable trends in both cases.

Although no data was collected on whether or not the three teachers implemented the reinforcement procedures and social skills training as agreed, both observers and the trainer observed these occurring during their visits to the kindergarten. The provision of afternoon tea and teacher release time was provided by the trainer because the teachers had improved their level of positive responses from baseline levels on four out of eight days during the Implementation Phase.

Changes in Child Behaviour

The changes in child behaviour which occurred following the above described changes in teacher behaviour are shown in the bottom panels of Figures 5 and 6.

During the Baseline Phase ST engaged in inappropriate behaviour during 8.2 per cent of recorded intervals, ranging from 2 to 17 per cent of intervals, while BE's inappropriate behaviour averaged 9.9 per cent of intervals with a range of 3 to 23. In both cases there was a marked downward trend across the Baseline Phase. At the commencement of the Implementation Phase the downward trend in inappropriate behaviour continued for ST. During this phase ST's inappropriate behaviour levelled out at 3.5 per cent of intervals. BE's inappropriate behaviour also levelled out at 3.5 per cent of intervals during the same phase. The follow-up data, taken five weeks later showed differing effects for each child. ST's level of inappropriate behaviour had recovered to a level of 5 per cent of intervals, which, although an increase from the Implementation Phase, was still well below that of the Baseline Phase and showing a slight downward trend. In BE's case, however, the level of inappropriate behaviour had reduced even further from the Implementation Phase to a mean level of 2.4 per cent of intervals with a stable trend.

The level of non-engaged behaviour for both ST and BE was minimal during the Baseline Phase with a mean level below 1.2 per cent of intervals for ST and 2.3 per cent for BE. The only notable exception to this was on Day 2 when ST's level was 10 per cent. During the Implementation Phase the level dropped to zero for both and remained there during the Follow-up Phase.

Discussion

Changes in Teacher Behaviour

The training and PSP programme produced temporary changes in the differential attention of the three teachers in this experiment, although these changes were extremely variable and lacked consistency. The mean level of positive responses of the three teachers

towards the behaviour of ST and BE increased three-fold in both cases. However there was considerable variability in the data with a range of 0 to 13 for ST and 0 to 11 for BE. By the end of the Implementation Phase the number of positive responses had declined to near baseline levels.

There were clear reductions in the negative responses of the teachers. They were halved for ST and reduced by 60 per cent for BE. However there was a marked increase in the number of negative responses given to ST during the final three days of the Implementation Phase, an increase which coincided with a decrease in the number of positive responses given during the same period.

In Experiment 2 the level of positive responses during the Follow-up Phase remained the same as it had been during the last part of the Implementation Phase. The reduction in negative responses given to ST and BE by the teachers continued into the Follow-up Phase where the levels were, in fact, lower than they had been in the Implementation Phase.

The training and PSP programmes used in this experiment were the same as those used in Experiment 1 with one exception; in the current experiment there was no CAP for the performance of the teachers. They were asked only to increase their positive responses above baseline levels and reduce their negative responses below baseline levels. The teachers had no idea what particular target they should aim for each day, but knew that they should respond to the target children when the prompting device sounded. The only feedback the trainer gave the teachers was whether or not their performance on the previous day had been satisfactory or not. If it was they were not told by how much and, similarly, if it was not they were not told by how much it was deficient.

The results obtained in Experiment 2 suggest that when no CAP is present the level of positive responses given by the teachers may be lower and more variable than when a CAP is present. While it can be said that the training produced increases in the positive responses and decreases in the negative responses given to both ST and BE, these improvements were extremely variable throughout the Implementation Phase and lacked the consistency of those obtained by the teachers in Experiment 1.

Changes in Child Behaviour

Although there were changes in the behaviour of both ST and BE during Experiment 2 these changes occurred at different times for both children. In both cases a decline in inappropriate behaviour began to occur during the Baseline Phase where there was a downward trend across the phase reaching to some 2 per cent for ST and 8 per cent for BE by the end of the phase. This trend continued into the Implementation Phase. In BE's case there was a further immediate reduction to 4 per cent at the commencement of the Implementation Phase.

The changes in teacher responses included more careful monitoring of ST and BE's behaviour, teaching some new social skills, reinforcing appropriate behaviour with praise and tangible reinforcement, and reducing the level of negative comments to the two children. In Experiment 2 it is difficult to tell whether the changes in the behaviour of the children were due to changes in teacher behaviour or whether they were simply continuations in a trend which had commenced during the Baseline Phase. An additional reduction in the inappropriate behaviour of BE occurred at the point where the teachers began to implement their changes, however this was not observed for ST. The decline in ST's inappropriate behaviour began early in the Baseline Phase and continued with a similar trend through the Implementation Phase.

The follow-up data for BE was encouraging in this experiment, while a little less so for ST. The percentage of intervals in which ST engaged in inappropriate behaviour during this phase ranged from 2 to 6 per cent of intervals, with a mean level of 5, which represented an increase from the Implementation Phase although there was a downward trend. For BE the range of intervals in which he engaged in inappropriate behaviour during the Follow-up Phase was 0 to 6 per cent with a mean level of 2.4 per cent and also with a downward trend. In BE's case the mean level of inappropriate behaviour was actually lower when the follow-up data was taken than it had been during the Implementation Phase (dropping from 3.5 per cent of intervals to 2.4 per cent of intervals). The reason for this is uncertain. One possible explanation may have been the involvement of BE's parents who had visited the

kindergarten, watched how the teachers were managing BE, and had begun to do the same at home. Although no data was collected on BE's behaviour at home, both parents reported how much easier things had become since they had introduced a simple star chart coupled with a daily and weekly reward if BE did as he was asked on most occasions. While it is impossible to know the extent of change in the management behaviour of BE's parents, if those changes were as they described them to the trainer and the teachers then it is likely that they would have contributed to the continued improvements in BE's behaviour.

EXPERIMENT THREE

One of the critical questions in any training programme is the role of the trainer. Sanders' (1982) component analysis clearly shows the importance of the trainer in terms of prompting and giving feedback in order to shape new management behaviours in parents. What is less clear is what happens when the trainer ceases to provide those prompts and that feedback. The question of the maintenance of newly-acquired behaviour management skills has not been systematically addressed by trainers in this field (Bernstein, 1982). Of the 24 studies reviewed in Chapter Four, only seven addressed the issue of maintenance.

According to Stokes and Baer (1977) if maintenance is to occur the prompts and reinforcement for new management behaviours must occur naturally in the setting where the teachers or parents normally operate. It is difficult to see how that can be the case if it is the trainer alone who provides the prompts and the feedback. When the trainer ceases to be present in the setting the prompts and feedback which were given by the trainer also cease. If newly acquired management behaviours are to be maintained, those who are normally present in the setting, and who will remain there, will need to provide the prompts and feedback. In other words, it should be the aim of training to teach teachers to recognise and reinforce the new management behaviours of their colleagues (Kelley, Embry, & Baer, 1979).

The aim of Experiment 3 was to analyse the effects of having the teachers rather than the trainer give the feedback to each other on their performance. In Experiment 3, as in Experiment 1, a CAP of 6 positive responses per 30 minutes was required of the teachers towards the behaviour of the two target children. However in Experiment 3 the daily feedback and reinforcement was to be given to the teachers by their peers, not by the trainer. It was hypothesised that as a result of the reintroduction of the CAP (a) the number of positive teacher responses would increase to the desired level with greater consistency and less variability than was the case in Experiment 2 and, in addition, (b) that because the teachers were providing the feedback rather than the trainer, that there would be greater maintenance of those improved levels during the Follow-up Phase of the experiment.

Method

Setting

Experiment 3 was conducted in a kindergarten situated in the south-western suburbs of Christchurch. The kindergarten had 38 children attending the afternoon session during the time of the experiment. The layout and design of this kindergarten was similar to that of the kindergartens which took part in both the Pilot Study and Experiment 1 with an "L" shaped interior comprising a number of spaces where activities such as puzzles, dress-up, reading, dolls, and play dough were set out for the children. The exterior contained activities such as climbing equipment, a sandpit, water play area, carpentry equipment, and scooters and trolleys of various kinds. During the session the children were allowed a free choice of activities except for mat time at the end of the session.

During each session, the supervision arrangements were the same as those for the kindergartens in Experiments 1 and 2.

Subjects

Part A: Teachers

Each session was attended by three teachers. All three teachers were trained kindergarten teachers with 2, 11, and 18 years experience respectively. The Head Teacher had some previous training in working with children with special needs having undertaken a 55 hour Advanced Studies for Teachers paper in children with special needs. This course had covered many of the elements which were included in the training workshops carried out by the trainer, however she said that as she had done that course some years earlier and felt " very rusty" about many of the skills which she had learned, that it would be beneficial for her to repeat them. She expressed some frustration at how the procedures which she had been taught on this course had been "sidelined" in Early Childhood Education, where,

in most cases, behavioural methods were not encouraged even for children whose behaviour was severely inappropriate. Neither of the other two teachers had any specific training in behaviour management although they commented that they had learned some aspects of the methods from an itinerant teacher of special needs who visited the kindergarten to work with a child three times a week. They reported that they had been involved in developing Individual Development Programmes for two children who had identified special needs in the kindergarten and that, as a result of that experience, knew something of structured instruction and the application of systematic reinforcement. All three teachers agreed to participate in the experiment.

Part B: Children

The children for Experiment 3 were chosen using the same procedure (Standardised Screening for Behaviour Disorders) as was used in the previous experiments. The teachers nominated four children who were, in their view, difficult to manage. All four children received scores below 140 from each of the teachers. As only two children could be observed during the experiment, two of the children nominated by the teachers had to be excluded from the experiment. It was decided that the two children who received the lower scores on the Canterbury Social Development Scale would be included, and the two who obtained the higher scores would be excluded. As a result of this decision the two children included in the experiment were SA, aged 4 years 6 months, who received scores of 82, 86 and 102 and RY, aged 4 years 2 months, who received scores of 111, 122, and 125. SA was a girl and RY was a boy.

SA had been at the kindergarten for about a year. She lived with her parents and younger brother. She was tall for her age and somewhat overweight. Since she had arrived in the kindergarten she had demonstrated a range of inappropriate behaviours including physical and verbal aggression towards the other children and staff, non-compliance, destruction of equipment, refusal to use equipment appropriately, and a desire to "hoard" equipment so other children could not play with it. In the week prior to the initial contact

between the staff and trainer SA had pushed two children from the top of the slide and had hurt them both. She had no friends and the other children stayed away from her.

RY had been at the kindergarten for about seven months. He was a very small boy who lived with his mother. He usually engaged in solitary play and would often rush up to an activity other children were engaged in, destroy it in some way, then move on. His inappropriate behaviours consisted mainly of mis-use of equipment and verbal abuse, threats, and foul language towards other children and staff. He seldom played in a positive or interactive fashion with other children.

Definitions of Behaviour

The definitions of behaviour used in this experiment were the same as that used in the previous experiments.

Observation Procedure

The observation procedure used in this experiment was the same as that used in the previous experiments.

Teacher Questionnaires and Anecdotal Notes

Teacher questionnaires were completed by the teachers prior to the present experiment in the same way as they had been in the previous experiments. A follow-up questionnaire was completed at the conclusion of the Implementation Phase of the experiment and prior to the collection of the follow-up data.

Experimental Design

The design used in this experiment was the same as that used in Experiments 1 and 2.

Training Programme

With one exception the training programme remained the same as that used in Experiment 1. The training workshops in Experiment 3 took place between noon and 2.00 p. m. on Wednesdays and Fridays. On these two days the teachers had non-contact time to undertake home visiting. The teachers decided to use their lunch break plus an hour of their non-contact time for the training. The sequence of workshops and training was the same as that described for Experiments 1 and 2. The training component which was changed was the role of the trainer. In Experiment 3, the trainer continued to provide direction on the type of intervention programme most likely to work with the two target children and also persuaded the teachers to aim for a CAP for positive teacher responses of 12 per hour. However, the trainer did not provide daily feedback on the teachers' performance but, instead, required the teachers to monitor their own performance and provide the feedback for each other. This was done by asking each of the teachers to keep a tally of their own responses to the target children and to meet at the end of each session to record and discuss their results. The trainer kept contact with the teachers on a daily basis by telephone in order to monitor whether the required tasks were being performed and visited the kindergarten once a week.

The behavioural goals set for SA in this experiment were (a) that she should keep her hands and feet to herself and not hit, kick, or push others, (b) that she should speak to others in a " friendly" and polite way, and (c) that she should ask for equipment she wanted to play with and only use one piece of equipment at a time. The behavioural goals for RY were (a) that he should use the equipment appropriately, (b) that he should play with, and cooperate with, other children in some activities, and (c) that he should speak in a "friendly" and polite fashion to others.

The treatment programme devised by the teachers in Experiment 3 was similar to that of Experiments 1 and 2. Both target children were to receive verbal praise and stickers for appropriate behaviour approximately every five minutes and could exchange three of these stickers for an item from a menu of preferred activities or a dip from the " Dip Jar". In this

kindergarten the Dip Jar was a little different. It contained a range of items such as sweets, pens, books, small toys, and various knick-knacks. The children could not see inside it but were very enthusiastic about being able to put their hands in and pull a surprise out.

In Experiment 3, the sit-and-watch procedure was used for SA. The teachers considered this to be necessary in order to be able to quickly react to, and confront, SA's overbearing and bullying behaviour. It was decided that this was not necessary with RY as the severity of his behaviour and the rates of his inappropriate behaviour were not as extreme as those of SA.

In Experiment 3 the teachers were told that if they carried out the required tasks and if they were able to reach their CAP for positive responses on four days out of five, the trainer would provide afternoon tea. It was also agreed that if they were able to achieve their CAP on 80 per cent of occasions during the Implementation Phase the trainer would provide each with a half day release time. This offer was received most enthusiastically.

Results

Interobserver Agreement

Interobserver agreement was calculated for the behaviour of the subjects and the teachers' responses on 10 occasions. Table 7 shows the percentages of interobserver agreement obtained on these occasions.

The two observers attained a level of agreement of 80 per cent or more on 85 per cent of occasions for the behaviour of the children and on 90 per cent of occasions for the responses of the teachers. The percentages of agreement were particularly low on Day 16. This was due to a fault in the auditory prompting device of the main observer. With that exception the percentages of agreement were all within acceptable limits.

Table 7

Percentage of Interobserver Agreement for Child Behaviour Codes for the Children Identified as Behaviour Disordered and the Teachers' Responses to their Behaviour in Experiment 3.

	Percentage of Agreement										
Day	2	7	16	22	23	31	34	71	74	79	Mean
Teachers	90.1	92.5	72.0	90.1	100.0	95.5	92.5	88.0	90.1	85.6	89.6
SA	84.1	85.2	66.1	86.1	81.7	87.7	88.7	87.4	87.1	87.1	84.8
RY	86.7	83.3	58.0	90.1	80.1	88.2	85.1	84.3	92.1	74.0	82.2

Pre-Training Teacher Reports

The responses to the questionnaires were similar to those in Experiment 1. All indicated that they considered antisocial behaviour was learned and that the child's home life was the primary cause of the problem. All of the teachers expressed concern at the increasing number of children who were presenting behavioural difficulties when they entered the kindergarten and the comparative lack of skill they felt they had in being able to address those needs.

In Experiment 3 all of the teachers were extremely positive about behavioural methods and were keen to learn and use them. One teacher said it was "high time" that such methods could be used as nothing else had worked.

Post-Training Teacher Reports

A week after the conclusion of the workshops, during a follow-up visit by the trainer, the teachers were asked to comment on the programme in the follow-up questionnaire. They were asked to comment under the same headings as the teachers in Experiments 1 and

2. However in this experiment they gave their comments orally in a group session, rather than in writing as in previous experiments.

The comments made were positive under all headings. The teachers expressed particular satisfaction at the very significant difference the programme had made to SA's behaviour. They commented that SA's parents were very keen to come to the kindergarten and watch the teachers responding to some of SA's inappropriate behaviour with a view to using some of the strategies with her at home. At one point in the study SA's parents had invited the trainer to their home in the evening to discuss in more detail the procedures which the teachers were using as they were keen to develop their own skills in this area.

The only negative comment was the amount of time the programme took to implement on a daily basis. Two of the teachers said they felt the other children were being neglected as they had to spend so much time thinking about, and responding to, SA and RY. However they also commented that because of the positive effect on SA and RY's behaviour the other children had benefited as well.

Changes in Teacher Behaviour

The changes in teacher behaviour which occurred following the commencement of the Implementation Phase of the experiment are shown in the top panels of Figures 7 and 8.

During the Baseline Phase the positive responses given to SA and RY by the three teachers were similar. For SA the mean across phase level was 4 per 30 minutes with a range of 2 to 6 (and a slightly upward trend). During the same phase the positive responses given to RY were at a level of 4.8 per 30 minutes with a range of 2 to 7. During the Training Phase the positive responses to SA increased slightly to 4.5 per 30 minutes with an increasing trend. However, there was a marked increase in the positive responses given to RY by the teachers during the Training Phase. For RY the mean level rose to 7.4 per 30 minutes with a sharp upward trend. Why this increase occurred at this point is uncertain although the most likely explanation is that the teachers began to implement the skills which they were learning in the workshops prior to being instructed to do so by the trainer. At the

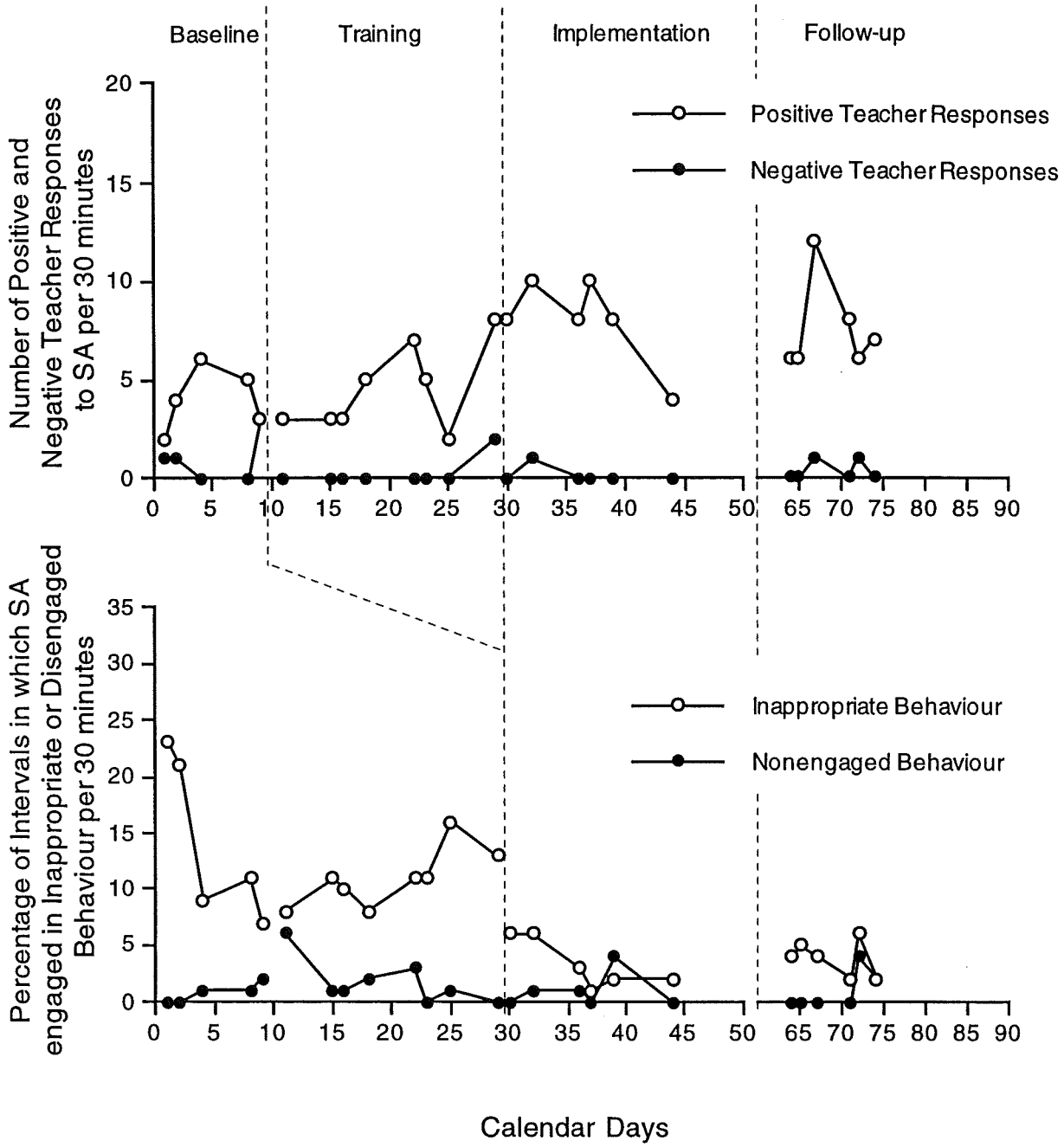

Figure 7: The number of positive and negative teacher responses to SA and the percentage of intervals in which SA was either non-engaged or engaged in inappropriate behaviour.

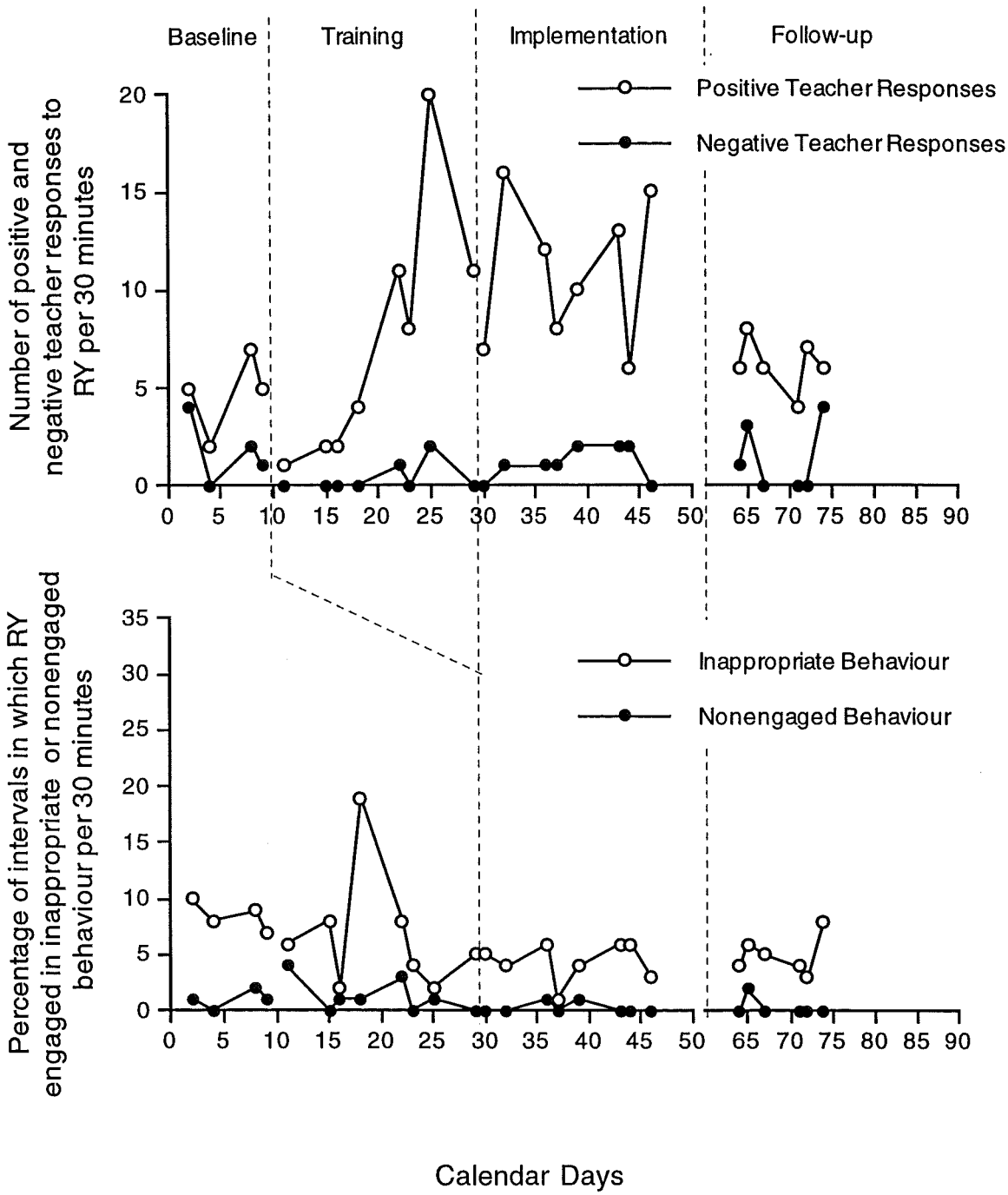

Figure 8: The number of positive and negative teacher responses to RY and the percentage of intervals in which RY was either non-engaged or engaged in inappropriate behaviour.

commencement of the Implementation Phase the mean level of the positive responses to both SA and RY increased markedly, however in RY's case the trend altered to become flat across the phase. In SA's case the level of positive responses rose to 8.4 per 30 minutes with a slightly decreasing trend across the phase and for RY they rose to 10.9. However there was some variability in RY's data with a range of 6 to 16. In both cases these were well above the CAP of 6 positive responses per 30 minutes. The follow-up data, taken three weeks later, showed a slight decrease in the positive responses to SA to a mean level of 7.8 and a somewhat greater reduction to RY to a level of 6.2 per 30 minutes, however these levels still remained above the CAP of 6, had stable trends, and maintained the level of differential attention.

During the Baseline Phase the negative responses given to both children were low with an across phase mean level of 1 for SA and 1.8 for RY. During the Training Phase these decreased even further to a level of 0.3 for SA and 0.4 for RY. The negative responses to SA remained very low for the remainder of the experiment with a mean level of 0.3 for SA and 1.3 for RY during the Follow-up Phase.

In addition to the positive and negative responses, the teachers also used the "sit and watch" procedure for SA. This procedure was used on Day 30 (5 times), Day 32 (3 times), Day 36 (3 times),and Day 44 (once). It was also used on one occasion during the Follow-up Phase on Day 71.

As for Experiments 1 and 2, no data was collected on whether or not the teachers delivered the reinforcement as agreed or whether the agreed social skills had been taught. In this experiment the trainer did not observe these aspects as he did not visit the kindergarten as often as the previous experiments, however comments from both observers indicated that the teachers were complying with the trainer's requests. In addition the trainer communicated with the teachers by telephone, not to provide them with feedback as in the previous experiments, but to check to see whether or not they were carrying out the instructions as agreed.

Changes in Child Behaviour

The changes in child behaviour which occurred following the above described changes in teacher behaviour are shown in the bottom panels of Figures 7 and 8.

During the Baseline Phase SA engaged in inappropriate behaviour during 12.3 per cent of the recorded intervals with considerable variability across the phase, ranging from 8 to 23 per cent of intervals. During the first two days on which SA's behaviour was recorded, her level of inappropriate behaviour was 23 per cent and 21 per cent of intervals respectively. During the next three days the level dropped to 9 per cent, 11 per cent, and 7 per cent of intervals. There appeared to be no obvious reason for this variability. During the Baseline Phase RY engaged in inappropriate behaviour during 7.3 per cent of recorded intervals with a range of 2 to 19. With the commencement of the Implementation Phase there was a marked decrease in the mean level of inappropriate behaviour performed by SA, reducing to 3.3 per cent, with a range of 1 to 6 per cent of intervals. This represents a four-fold reduction. However RY's inappropriate behaviour had begun to decline prior to the Implementation Phase, on Day 23, when the teachers increased their level of positive responses to him. For RY the reduction was a little less than that of SA with his inappropriate behaviour decreasing to a level of 4.4 per cent of intervals which represents a 60 per cent reduction. The follow-up data, taken three weeks later, showed that the improvements in the behaviour of both children had been maintained with SA's at 3.8 per cent of intervals and RY's increasing a little to 5 per cent. In both cases the levels of inappropriate behaviour were still well below baseline levels with stable trends.

The non-engaged behaviour for both children was negligible throughout all of the phases of the experiment.

Discussion

Changes in Teacher Behaviour

The training and PSP programme produced clear changes in the differential attention of the teachers. It produced increases in the positive responses of the teachers towards the behaviour of both SA and RY. For SA these positive responses doubled, while for RY they increased by some 65 per cent. The programme resulted in reductions in the rate of negative responses of the teachers although in this experiment these were very low from the beginning of the Baseline Phase. In addition the teachers used the "sit and watch" procedure with SA for the first time during the Implementation Phase.

An important feature of the changes which occurred in the positive responses of the teachers in Experiment 3 was that for one of the children, RY, these began to sharply increase during the Training Phase which was before the trainer had instructed the teachers to implement any change in their responses. It is uncertain why this happened, and even less certain why it happened for only one of the two children. One possible reason may have been that the readings and workshop material which had already been covered prompted the teachers to begin to increase their level of positive responding to RY without any prompting from the trainer. As all three teachers in this kindergarten had varying degrees of previous training and exposure to behavioural procedures it is quite possible that they identified the need themselves and responded to it. Why this did not also happen in SA's case is not known.

In Experiment 3 it would appear that the differential attention achieved by the teachers was maintained to a greater extent than it had been in the earlier experiments. Although there was a reduction in positive responses in the Follow-up Phase, this was much less marked than it had been in Experiments 1 and 2 with the levels of responses still remaining above the CAP of 6 per 30 minutes. The low level of negative responses was maintained through to the Follow-up Phase. The teachers in Experiment 3 also used the "sit and watch" procedure on one occasion during the Follow-up Phase.

The training and PSP programme used in this experiment was the same as that used in Experiment 1 apart from the source of the feedback. In this experiment that feedback was given by the teachers to each other at the end of each session rather than by the trainer as had previously been the case. The positive responses of the teachers increased to levels above the CAP during both the Implementation and Follow-up Phases which enabled the differential attention effect to be maintained. The results supported the hypotheses (a) that the re-instatement of the CAP for positive teacher responses would result in higher and more consistent levels of positive teacher responses, and (b) that by having the teachers act as the sources of feedback and reinforcement for the desired teacher behaviours in each other, there would be greater maintenance of differential attention than had occurred in the previous experiments.

Changes in Child Behaviour

The behaviour of SA and RY began to change at the point where the teachers began to implement changes in their behaviour, although in RY's case this occurred before the teachers had been requested to implement the required changes in their behaviour. These changes included closer monitoring of SA and RY, targeting specific appropriate behaviours, instructing the children in new skills, increasing positive responses to the appropriate behaviour of SA and RY, using both praise and tangible reinforcement in a systematic fashion, decreasing the negative responses to both children, and using inclusionary time out for SA. For SA these changes began at the beginning of the Implementation Phase proper, however for RY increased rates of positive responses began toward the end of the Training Phase. At the point that the teachers began to increase their positive responses towards RY (Day 23), there was a corresponding decrease in RY's inappropriate behaviour. From the point of intervention both SA and RY showed considerable decreases in their levels of inappropriate behaviour. SA's level reduced to 27 per cent of its baseline level while RY's reduced to 60 per cent of its baseline level. This reduction was particularly important for SA whose behaviour was threatening and

dangerous towards other children. As these changes occurred at the onset of the changes in teacher responses, it can be concluded that the changes in the teachers' behaviour were responsible, at least in large part, for the changes in the behaviour in the two children. Although the follow-up data showed a slight rise in the levels of inappropriate behaviour for both children these levels were still well below those recorded in the Baseline Phase and showed a stable trend.

In this experiment there were two factors which could have been operating to maintain the reduced levels of inappropriate behaviour in the two children. The first was that the increased level of positive responses and decreased level of negative responses achieved during the Implementation Phase had, for the most part, been maintained during the Follow-up Phase. The second factor was the more positive interactions which were occurring between SA, RY and their peers. Although these interactions were not recorded, it was noticed by both observers that both children seemed to be involved in more activities and were getting themselves and others into less trouble than had previously been the case. The main observer commented on more than one occasion that other children would approach SA to play on certain activities which was something which had never occurred during the Baseline Phase of the experiment.

EXPERIMENT FOUR

Experiment 2 measured the effects of removing the criterion of acceptable performance (CAP) for the positive responses of the teachers towards the two target children. Feedback in that experiment was given to the teachers on the basis of an increase in their positive responses and decrease in their negative responses against the baseline levels. The result was less consistency and lower levels of positive teacher responses.

One feature of training programmes which have sought to teach parents and teachers to better manage their children has been the lack of detailed description of the components of training, especially the nature and characteristics of feedback (Bernstein, 1982). One possible reason for this is the difficulty posed by a detailed analysis of the components of a training programme, especially in natural settings where many other potential variables may also influence the outcome. Graziano and Diament (1992) conclude that while parent training programmes have had a "robust" effect on the behaviour of parents and children, especially those who are noncompliant, there are many uncertainties as to what works and why. They argue that despite the many possible combinations which may be present in an effective training programme, one feature of all training programmes for both parents and teachers is similar, that is the desire for improvement in the behaviour of the child. If a common goal of parents and teachers of children with behaviour disorders is the improvement in their child's behaviour, and if the desire for improvement is sufficient to motivate the parent to seek training to improve their management skills, it could be reasonably assumed that feedback based on observed improvements in the behaviour of the target children should be sufficient to motivate improvement in the management behaviour of the teachers.

Experiment 4 sought to measure the effects of providing feedback to the teachers based on improvements in the behaviour of the target children, rather than specific changes in the management behaviour of the teachers themselves. It was hypothesised that because the teachers were not receiving feedback on their own performance and, because of this, no

CAP for their performance could be required, that the level and consistency of positive responses from the teachers would be less than that observed in Experiments 1 and 3.

Method

Setting

Experiment 4 was conducted in a kindergarten in the northern suburbs of Christchurch. The kindergarten had 40 children who attended the afternoon session during the time of the experiment.

The layout and activities available in this kindergarten were very similar to that used in the Pilot Study, Experiment 1, and Experiment 3.

During each session the supervision arrangements were the same as those in previous experiments; one teacher inside, one teacher outside, and one floating. These roles were rotated on a daily basis.

Subjects

Part A: Teachers

Each session was attended by three teachers, all of whom participated in the study. The three teachers were all trained kindergarten teachers with 14, 6, and 2 years experience respectively.

None of the teachers had any specific training in behaviour management apart from that which they had received during their preservice training. All of the teachers commented on how much more difficult children were becoming to manage and all agreed that they were finding it increasingly difficult and time consuming to deal with some children. One of the teachers commented that there had been occasions where she feared for the safety of other children because of the behaviour of "one or two".

All three teachers were enthusiastic about being involved in the experiment.

Part B: Children

The subjects for this experiment were selected in the same way as those in the previous experiments. In Experiment 4 the teachers nominated only two children as difficult to manage. After the three teachers had independently completed the Canterbury Social Development Scale for each child it was clear that both of them scored well below the 140 required for selection into the experiment. The children were JN, aged 4 years and 7 months, who received scores of 62, 67, and 70, and ZK, aged 4 years and 3 months, who received scores of 101, 112, and 128. Both were boys.

JN had been at the kindergarten only three months, having just moved into the area. He lived with both parents who found him very difficult to manage at home. His father had given up trying to "discipline" JN as his most recent attempts had resulted in JN running away and, on one occasion, having to be returned by the police. JN displayed a range of inappropriate behaviours including physical and verbal aggression, mis-use of equipment, breaking the rules of the kindergarten on a minute-by-minute basis, non-compliance, and the constant disruption of other children. ZK had been at the kindergarten for a little over three months. He lived with his mother who did not monitor what ZK did at home. He frequently played in the streets around his home, often until well after dark. He was frequently late or absent from the kindergarten. He was a solitary little boy who seldom interacted with other children or adults and, when he did, was often abusive or aggressive. He was non-compliant when requests were made of him by any of the staff, usually ignoring them.

Definitions of Behaviour

The definitions of behaviour used in this experiment were the same as those used in the previous experiments.

Observation Procedure

The observation procedure used in this experiment was the same as that used in the previous experiments.

Teacher Questionnaires and Anecdotal Notes

Teacher questionnaires were issued to the teachers prior to the experiment in the same way as they were in the previous experiments. Anecdotal notes and comments from the teachers were recorded and collected from a questionnaire at the conclusion of the Implementation Phase and prior to the collection of follow-up data.

Experimental Design

The design used in this experiment was the same as that used in the previous experiments.

Training Programme

In Experiment 4 training took place on Tuesday and Thursday afternoons from about 3.30 pm until 5.30 pm. The content and sequence of workshops was the same as that described for Experiment 1.

What differed in Experiment 4 was that no CAP for positive teacher responses was set and no daily feedback was given to the teachers on their performance. Unlike Experiment 3, where the teachers were asked to monitor their own responses, the teachers in Experiment 4 were asked to monitor the behaviour of the target children instead. The trainer continued to contact the teachers regularly, but instead of giving them feedback on their own performance, the trainer provided feedback on the performance of the two target children.

In Experiment 4 the behavioural goals decided on for JN were (a) that he should keep his hands and feet to himself and not hit, kick, or push other children, (b) that he should

play "nicely" with other children and not upset their games, and (c) that he should treat the equipment in the kindergarten with respect. For ZK the behavioural goals were (a) that he should begin to play with and interact with other children, and (b) that he should follow instructions and requests within one minute. The treatment programme devised by the teachers for the target children was similar to that in the previous experiments. The teachers agreed that it would be necessary to teach both JN and ZK how to play with others and how to join a game without ruining it, as neither appeared to know. The trainer thought it would be necessary to use the "sit- and-watch" procedure for both children in addition to the verbal and activity reinforcers. The teachers in this kindergarten felt uncomfortable about this, but agreed to do so in the case of JN.

The trainer gave the teachers verbal praise in the manner described in the previous experiments, and, in addition, provided them with afternoon tea if the inappropriate behaviour of the target children had either remained constant or reduced on four of the five previous days. The teachers were again offered a half day release time if the inappropriate behaviour of both children was halved during the Implementation Phase.

Results

Interobserver Agreement

Interobserver agreement was calculated for the behaviour of the two subjects and the teachers' responses on seven occasions. Table 8 shows the percentage of interobserver agreement obtained on these occasions.

The percentage of agreement between the two observers reached a level of 80 per cent or more on 82 per cent of occasions for the target children and on 100 per cent of occasions for the responses of the teachers. It should be noted that on three occasions when percentages of agreement were calculated for the target children, ZK was absent.

Table 8

Percentages of Interobserver Agreement for Child Behaviour Codes for the Children Identified as Behaviour Disordered and the Teachers' Responses to their Behaviour in Experiment 4.

	Percentage of Agreement							
Day	3	5	11	13	16	20	34	Mean
Teachers	95.5	98.5	100.0	98.3	85.0	100.0	95.5	96.1
JN	83.3	79.6	87.6	86.4	83.2	83.1	83.2	83.7
ZK	83.1	absent	76.3	86.3	absent	80.9	absent	81.7

Pre-Training Teacher Reports

The results of the teacher questionnaires were all positive towards the possible use of behavioural strategies. One of the teachers expressed reservations about the use of time out procedures, however she had no problem with the use of inclusionary time out procedures, such as the "sit and watch" method being applied in this experiment. All three teachers agreed that the problem behaviours they saw daily in their kindergarten were largely the result of the children's environment. They expressed a desire to do something about it but expressed the belief that changes might be only short-term without the involvement of the parents.

Post-Training Teacher Reports

A week after the conclusion of the Implementation Phase, the teachers were asked to comment on the programme using the questionnaire provided by the trainer. The teachers were asked to comment under the same headings as those in the previous experiments. The

teachers commented on how the training programme had helped them focus on a problem as a team by developing a consistent series of responses to the target children. All believed the programme had been beneficial and noted that JN seemed to have more friends who were prepared to play with him than before. Two of the teachers said they found the programme to be time consuming and they doubted if they could keep it up for long periods, while one teacher said she was still uncomfortable about giving tangible rewards to young children even though those rewards worked well. She said she believed there was a danger that the children could become dependent on these rewards as they "were obviously very powerful".

Changes in Teacher Behaviour

The changes in teacher behaviour which occurred at the commencement of the Implementation Phase of the experiment are shown in the top panel of Figures 9 and 10.

During the Baseline Phase there were very few positive responses given to either JN or ZK. For JN the across phase mean level was 0.9 per 30 minutes and for ZK it was actually zero. This changed little for JN during the Training Phase with a slight decrease in the mean level to 0.8 positive responses per 30 minutes, however the number of positive responses given to ZK rose to a mean level of 1.8 across the phase. During the Implementation Phase there was a marked increase in the level of positive responses towards both children. In JN's case the mean across phase level rose to 5.7 per 30 minutes with a range of 4 to 9 and a stable trend.

For ZK the main feature of the positive responses given by the teachers during the Implementation Phase was the variability, with a range of 1 to 12 and a mean level of 5.9. When the follow-up data was taken three weeks later it showed that the positive responses to JN had decreased to 3.2 per 30 minutes. There was no follow-up data for ZK as he had stopped attending the kindergarten prior to the Follow-up Phase.

During the Baseline Phase the negative responses given to both JN and ZK were also low with an across phase mean level of 2.1 per 30 minutes for JN and 1.3 for ZK. These

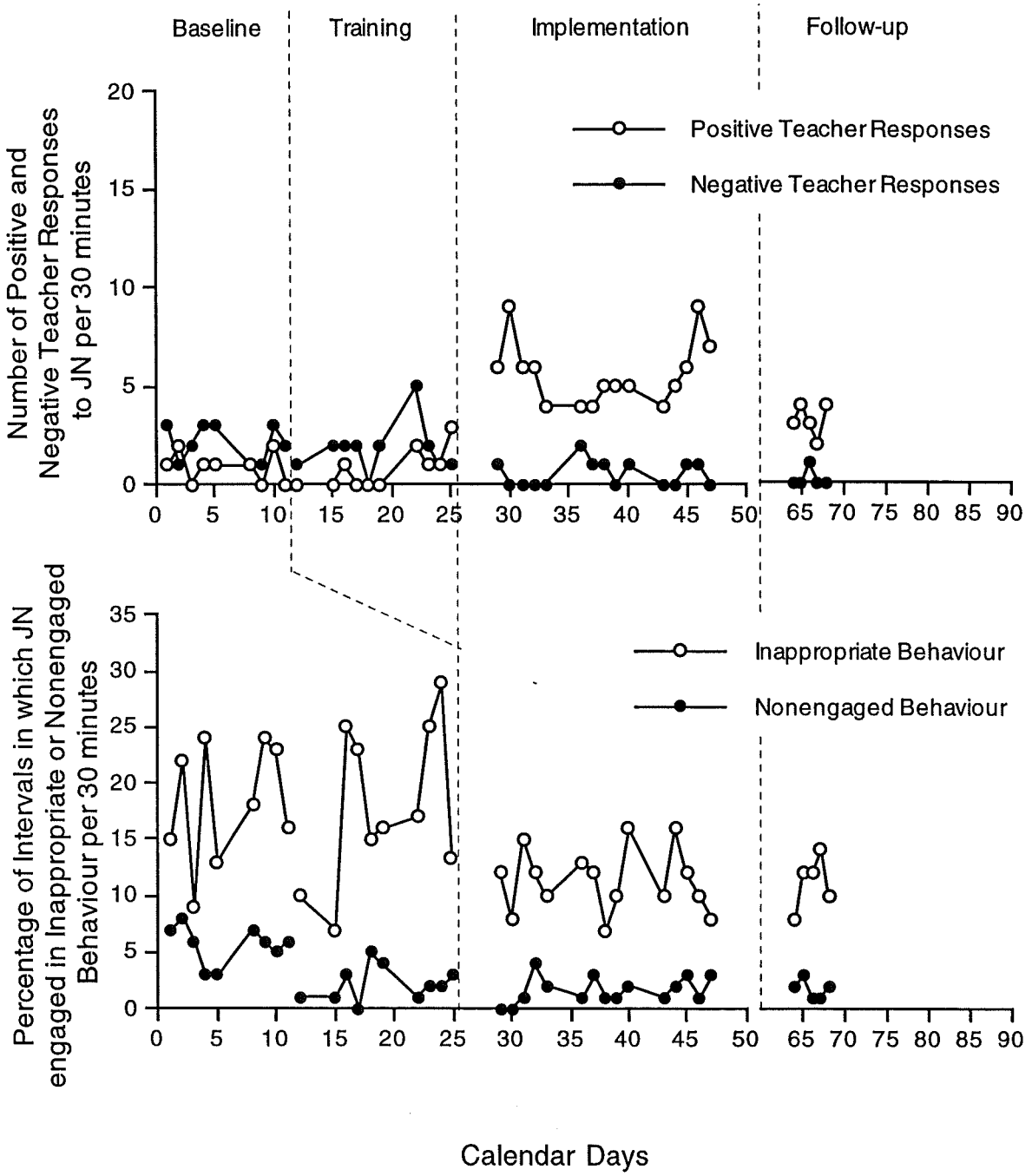

Figure 9: The number of positive and negative teacher responses to JN and the percentage of intervals in which JN was either non-engaged or engaged in inappropriate behaviour.

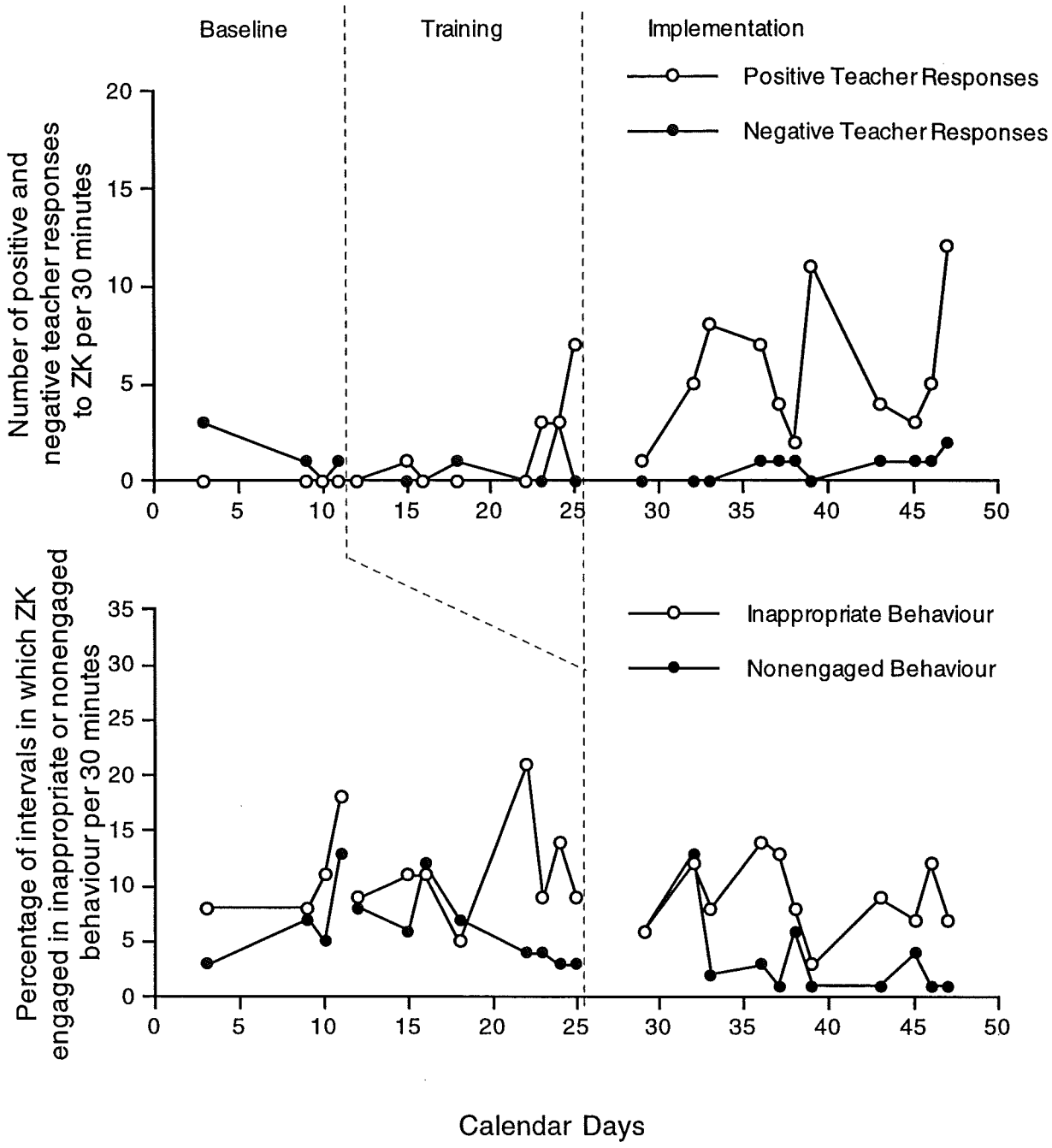

Figure 10: The number of positive and negative teacher responses to ZK and the percentage of intervals in which ZK was either non-engaged or engaged in inappropriate behaviour.

levels altered little during the Training Phase with levels of 1.8 for JN and 0.5 for ZK. During the Implementation Phase the mean level of negative responses dropped to 0.5 per 30 minutes for JN, but stayed similar for ZK at 0.7 per 30 minutes. The follow-up data showed a further slight drop to 0.2 negative responses for JN across the phase.

In addition to the positive and negative responses the teachers also used the "sit and watch" procedure for JN when his behaviour was either physically or verbally abusive towards others. The teachers used the procedure on six days during the Implementation Phase on Day 30 (4 times), Day 33 (4 times), Day 35 (twice), Day 36 (3 times), Day 43 (twice), and Day 47 (twice).

As was the case in Experiments 1, 2, and 3 no data was collected on whether or not the teachers delivered the reinforcement programme and taught the social skills as instructed. However the teachers were observed carrying out these tasks by both of the observers and the trainer on several occasions. In this experiment the trainer delivered the afternoon tea reward to the teachers during the Implementation Phase as JN's inappropriate behaviour had decreased. At the conclusion of the Implementation Phase it was agreed that only part of the day release would be offered by the trainer as the behaviour of both children had not improved, only JN's.

Changes in Child Behaviour

The changes in child behaviour which occurred following the above described changes in teacher behaviour are shown in the bottom panels of Figures 9 and 10.

During the Baseline Phase the inappropriate behaviour of both children was extremely variable. JN engaged in inappropriate behaviour during 18.1 per cent of recorded intervals, ranging from 6 to 29 per cent, while ZK's inappropriate behaviour averaged 11.2 per cent of intervals with a range of 5 to 21 per cent of intervals. When the Implementation Phase commenced JN's inappropriate behaviour showed a little less variability ranging from 7 to 16 per cent of intervals and decreased to a mean level of 11.4 per cent of intervals, a reduction of some 58 per cent. ZK's level of inappropriate behaviour showed little change

in either variability or level during the phase with a slight reduction to 9 per cent of intervals and a range of 3 to 14 per cent of intervals. During the Follow-up Phase three weeks later the level of JN's inappropriate behaviour had altered little at 11.2 per cent of intervals. Due to absence, there was no follow-up data for ZK.

For both JN and ZK the level of non-engaged behaviour was reasonably significant during the Baseline Phase with JN non-engaged during 8 per cent of intervals and ZK non-engaged during 6 per cent of intervals. During the Implementation Phase these levels decreased for JN and ZK to 1.7 per cent of intervals and 3.3 per cent respectively. The follow-up date showed the reduced level of non-engaged behaviour for JN had been largely maintained at a level of 1.8 per cent of intervals.

Discussion

Changes in Teacher Behaviour

The training and PSP programme produced several changes in the management behaviour of the teachers. It produced increases in the positive responses the teachers made to both JN and ZK by almost six times. It reduced the negative responses to both children to negligible levels. In addition, the programme required the teachers to use the "sit and watch" procedure with JN for the first time.

Although the changes in negative responses continued towards JN (the only remaining child) during the Follow-up Phase, there was a reduction in the level of positive responses to 3.2 per cent from 5.7 per cent per 30 minutes. The "sit and watch" procedure was not used during the Follow-up Phase.

As was the case in the other experiments, these changes in teacher behaviour did not occur until the onset of the Implementation Phase, at the point where the teachers were required to practise the skills which they had been taught.

In Experiment 4 two components of the PSP programme differed from the other experiments. There was no CAP set for the performance of the teachers and feedback was

not given to the teachers on their own behaviour, but rather on the behaviour of JN and BK. While the improvements in the management behaviour of the teachers was marked, the levels of positive responses did not get as high at any stage of the experiment as they did in Experiments 1 and 3 where a CAP was set, and, as was the case in Experiment 2 when the CAP was removed, the consistency of the positive responses during the Implementation Phase of Experiment 4 was somewhat variable.

Changes in Child Behaviour

The behaviour of only one of the children, JN, changed during the Implementation Phase. It was during this phase that teachers engaged in more systematic monitoring of JN's behaviour, increased the level of positive responses, implemented tangible reinforcers for improvements in JN's appropriate behaviour, decreased the level of negative responses to mild inappropriate behaviour, and applied an inclusionary time out procedure for violent or non-compliant behaviour with JN. These changes in teacher behaviour did not occur with respect to ZK. For JN the reduction in his inappropriate behaviour was sizeable, from 18.1 per cent of intervals to 10.6. Despite a sizeable reduction, his level of inappropriate behaviour was still marked even after the intervention had been implemented. However, the reduced level was maintained during the Follow-up Phase three weeks later.

ZK's inappropriate behaviour did not change to any great degree. Why there was no change in ZK's behaviour is uncertain although there are two possible reasons for his lack of improvement. ZK was frequently absent from the sessions which meant that any attempts by the three teachers to teach him the missing skills which had been identified during the Baseline Phase were interrupted. In addition, and possibly as a result of his absences, the degree of differential attention achieved by the teachers may have been insufficient to motivate the desired changes. Secondly, the teachers used the "sit and watch" procedure for JN but not for ZK.

The follow-up observations indicated that there had been a decline in the rate of positive responses the teachers made to JN, yet despite this, the improvements in JN's

behaviour were maintained. Both of the observers reported that following the intervention JN was prepared to attempt activities and settle to them much more than he had previously, that he played with several children with whom he had previously had no contact, and that his aggressive behaviour towards others had decreased. While the teachers' positive responses to JN had reduced during the Follow-up Phase the rate of these responses was still three times greater than they had been during the Baseline Phase. It is possible that the level of these positive responses plus the changes in JN's pattern of play both helped contribute to the maintenance of improvements in his behaviour.

CHAPTER EIGHT

DISCUSSION

The present study had three aims; (a) to accurately identify young children with behaviour disorders, (b) to develop a training programme for kindergarten teachers which would be effective in developing skills which these teachers could use to better manage children with serious behaviour problems in an applied setting, and (c) to measure the effects of various forms of feedback on the acquisition and maintenance of behaviour management skills by kindergarten teachers. All of these aims were carried out in the natural setting of the kindergartens where the teachers and children attended.

Natural settings place limits on the degree of experimental control which can be achieved. Before proceeding to summarise the results of these experiments it is therefore necessary to identify any weaknesses which limit the conclusions which can be drawn. This section examines these limitations prior to drawing any conclusions regarding the extent to which the aims of the study were met.

PART 1

Limitations of the Procedures

Dependent Variables and their Measurement

Two classes of dependent variables were observed and reported in the experiments in this thesis. These were (a) changes in teacher behaviour which occurred as a result of the implementation of the Training and PSP Programme and (b) changes in child behaviour which occurred as a result of changes in the management behaviour of the teachers.

Teacher Behaviours Observed and Recorded

Three classes of teacher behaviour were recorded and two were not recorded. Those recorded were (a) positive responses, (b) negative responses, and (c) time out for those teachers who were trained to use it. Those not recorded were (a) the teaching of specific social skills and (b) the use of tangible reinforcement by the teachers.

Positive responses, not specific responses to appropriate behaviour were recorded. In the environment of the kindergarten (where many events and reactions to different children were occurring simultaneously) it was difficult to accurately record contingent child-teacher reaction sequences as they applied to an individual child and, consequently, no attempt was made to do so. Positive responses were those responses which looked as though they were being made in response to appropriate behaviour by the target children and which indicated approval of that behaviour in some way. In most cases it was likely that the positive responses of the teachers were reactions to appropriate behaviour, however the data which was observed and recorded does not allow this conclusion to be drawn with complete certainty. In fact, it was possible that some of the variability in the children's responses to the new management behaviours occurred because not all positive responses were reactions to specific appropriate child behaviour. The same can also be said of the negative responses given by the teachers. Once again these were recorded when the teachers appeared to be responding to inappropriate behaviour in a manner which indicated disapproval of that behaviour. It cannot be concluded that negative responses were made only to inappropriate behaviour.

This raises the question of whether positive and negative responses were an adequate substitute for contingent reactions to appropriate and inappropriate child behaviour. The result of not recording contingent positive and negative teacher responses means that it was not possible to state with certainty that the responses of the teachers were responsible for subsequent changes in specific behaviours of the target children. Although this was a shortcoming, it is likely that most of the positive and negative responses which the teachers made were in response to appropriate and inappropriate behaviour respectively. In any

event, the primary aim of the training programme was improve the differential attention of the teachers and the classes of behaviour which were observed and recorded enabled this to be measured.

Another important training aim, which was to get the teachers to teach social skills, was not recorded. This was a shortcoming in the present experiments as differences in social skills teaching may have contributed to the variability in the children's responses to the interventions introduced by the teachers, such as the lack of any change in ZK's behaviour. The need to record and report the teaching of specific social skills is an aspect which would need to be included in future studies of this kind.

The use of reward schemes was not recorded. This was a major shortcoming in the present experiments. If the teachers in each kindergarten varied with respect to their implementation of this part of the programme then this might also explain some of the variability in the changes in child behaviour. This cannot be checked as it was not recorded. Once again, this is something which future researchers in this field will need to take into account.

Child Behaviours Observed and Recorded

Three classes of child behaviour were observed and two were reported: a) the percentage of intervals containing inappropriate behaviour and b) the percentage of intervals containing nonengaged behaviour. The percentage of intervals containing appropriate behaviour, while recorded, was not reported. One of the aims of the treatment programme for the target children in the Pilot Study and four experiments was to decrease the rate of inappropriate behaviour and increase the rate of appropriate behaviour which each child demonstrated. This can be measured in either of two ways. The first is to measure and report the rates of appropriate behaviour for each child. The second is to measure and report the rates of inappropriate behaviour for each child. Provided that nonengaged behaviour is occurring at a constant rate, these two classes of behaviour are mutually exclusive (behaviour can only be coded as either appropriate or inappropriate, but never

both). So it does not matter a great deal which is reported, as an increase in one must lead to a decrease in the other. As the focus of the experiments in this thesis was to achieve reductions in the rates of inappropriate behaviour, it seemed appropriate to use this as the measure.

Measurement Procedures for Teacher and Child Behaviour

Measurement of teacher behaviours. In the present experiments the responses of individual teachers were aggregated within each session to produce an overall number of responses given to each of the target children. The result of grouping the teacher behaviours together was that while changes in the behaviour of the teachers as a group were recorded, changes in the behaviour of individual teachers were not. Had individual performance data been collected this may have provided valuable clues as to other variables which were operating (such as how the relationship between previous experience and attitude to training might have been interacting with the training effects). It might also have provided some clues as to the reasons for the variability in teacher behaviours which sometimes occurred, especially in Experiments 2 and 4. If the training had been successful for one or two of the teachers, but not the other, and these teachers were rotating in their duties from day-to-day, this might explain some of the day-to-day variability in teacher responses. Because the observers did not distinguish between teachers, hypothesis such as these cannot be followed up.

Measurement of child behaviours. In the present experiments child behaviour was recorded in one of three categories; appropriate, inappropriate, or nonengaged. The main limitations of the decision to record the behaviour of the children into just three categories was that the effects of the interventions on specific child behaviours cannot be explored. Because the various classes of appropriate behaviour were not coded separately, for example, it was impossible to track the social skills which had been targeted and whether or not these were being used by the child. Although recording of various sub-classes of behaviour would have provided interesting additional information, in terms of the aim of the

experiments it does not matter that this was not done. The aim was to improve the overall rates of appropriate behaviour, and decrease the overall rates of inappropriate behaviour of the children and the data which was collected allows conclusions to be drawn regarding the extent to which these aims were achieved.

Observation procedures. Direct observational procedures were used to record behaviour in the present experiments. A 10-second interval recording procedure was used for either 20 minutes (in the Pilot Study) and 30 minutes (in Experiments 1 to 4) to observe and record the behaviour of the children in these experiments as it enabled the observers to observe and code behaviours of both short and long duration. For example, an incident of hitting or verbal abuse is usually quite short, lasting only some seconds, whereas an incident of rule breaking or mis-use of equipment may last for some minutes. This procedure can create problems if the child performs a short, discrete behaviour (such as hitting) more than once during the 10 second interval, since the recording shows only an "incident of hitting", rather than the number of punches which were delivered.

Interobserver agreement. The accuracy and reliability of a measurement result are effected by the measurement procedures used, the extent to which measurement conditions have been standardised, the care and skill of those doing the measuring, the way the behaviours have been defined, the length of the observation periods, and the number of observation periods.

In the present experiments the quality of the data was assessed through the use of interobserver agreement. Interobserver agreement measures the extent to which two observers report the same result when applying the same observation procedure to the same phenomenon.

Neither the accuracy nor the reliability of the data were assessed. Accuracy refers to the extent to which the result is a true record of what happened. Reliability refers to the extent to which the experimental procedure generates the same result when applied repeatedly to the same phenomenon. Johnston and Pennypacker (1993) argue that interobserver agreement does not measure accuracy for, while it is possible for two observers to agree that they are seeing the same event, this does not necessarily mean that

the event occurred in the way in which it was recorded. They cite the example of two witnesses in a murder case. Both may agree that they saw a particular person in a certain place but that does not mean that it was actually that person. So, while two observers may agree that they observed a teacher making a positive response, this does not demonstrate that a positive response was actually made. However, they do argue that, while measures of interobserver agreement do not demonstrate accuracy, to have more than one trained observer agree that an event did occur does enhance the believability of the data in as much as it is more likely that a record will be accepted as true if more than one person has reported that it occurred (Johnston & Pennypacker, 1993). According to Johnston and Pennypacker (1993), measures of interobserver agreement are actually measures of consensual validity. These measures may enhance the believability of the data but do not demonstrate that the records are accurate representations of the behaviour actually engaged in.

In the experiments reported in this thesis it would have been extremely difficult to obtain measures of accuracy and reliability. The only means of doing so would have been to make video recordings of the children and teachers during each session, an almost impossible task given the high level of mobility which occurs in a kindergarten setting and the fact that kindergartens have a number of different indoor and outdoor play areas where the children are free to go. If the use of interobserver agreement to assess the quality of the data collected during the present experiments was a weakness then it is a weakness which the experiments share with the great majority of applied behaviour analysis experiments.

A possible problem with interobserver agreement is that it can be unduly effected by low rate behaviours. For example, if a child hits another child only once during an observation session the percentage of agreement can only be 100 per cent or zero per cent. Consequently, to try to obtain data on low rate behaviours using interobserver agreement alone could be misleading. In the present experiments this was not a problem as both high rate behaviours (such as rule breaking) and lower rate behaviours (such as hitting) were grouped together to give an overall measure of the percentage of intervals containing inappropriate behaviour.

According to Cooper, Heron and Heward (1987) the level of agreement between two observers should be 80 per cent or greater before any claims about consensual validity can be made. In the Pilot Study the percentage of agreement between the observers was 80 per cent or greater on 69 per cent of occasions for child behaviour and 100 per cent of occasions for teacher behaviour. The 80 per cent agreement criterion was reached on 85 per cent of occasions for child behaviour and 100 per cent of occasions for teacher behaviour in Experiment 1, on 86 per cent of occasions for child behaviour and 100 per cent of occasions for teacher behaviour in Experiment 2, on 85 per cent of occasions for child behaviour and 95 per cent of occasions for teacher behaviour and in Experiment 3, and on 82 per cent of occasions for child behaviour and 100 per cent of occasions for teacher behaviour in Experiment 4. The percentages of agreement achieved by the two observers were of an acceptable standard given the high level of mobility of the children and teachers, and the other setting events which were present on a daily basis.

Independent Variables and their Measurement

In the experiments reported in this thesis there were two functional relationships which were of importance. These were (a) whether or not the Training and PSP Programme produced changes in the management behaviour of the teachers in each setting and (b) whether or not those changes in teacher behaviour resulted in subsequent changes in the behaviour of the target children.

Experimental Procedures

When a decision is made to conduct research in a natural setting, such as a kindergarten, it is almost inevitable that some aspects of scientific rigour are reduced in the interests of realism. It was made clear to the experimenter by the teachers in all of the kindergartens that the needs of the children and staff must take precedence over any procedural needs which the experimenter might have. While this did not pose a problem in

some areas (such as the presence of observers), it did in others (such as the willingness to treat only one child at a time). In all of the experiments scientific requirements were adhered to as far as was possible, however organisational and other daily demands which occurred in the kindergartens meant that on some occasions compromises had to be reached.

A further problem with conducting research in a busy natural setting was that it made the standardisation of measurement difficult to achieve. No two observational sessions were completely the same in terms of the setting events and variables which were present. There were many possible variables which potentially effected efforts to standardise measurement, such as the number of parents or other adults present at different times on different days, days when the children were confined to the indoors because of the weather, or, more commonly, days when concerns relating to children other than the target children took additional time from the teachers. While these events made complete standardisation impossible, it is these same events which form the daily life of a kindergarten and, therefore, cannot be eliminated from consideration.

Within-subject experiments were used in order measure the effects of the training on the management behaviour of the teachers and the effects of changes in teacher behaviour on the behaviour of subject children. Phase changes corresponded to changes in environmental conditions resulting from the implementation of the training programme. As a result, the length of a given phase varied from one experiment to the next because the Implementation Phase had to be introduced at an appropriate time in the training programme, and this varied across the four experiments.

Experimental design. There is no doubt that the use of an ABCD design to measure the effects on teacher behaviour and an ABC design to measure the effects on child behaviour is an inherent weakness of the present studies as the designs do not include any direct replication. However, a limited replication of the effect of changes in teacher behaviour was provided by measuring the effects of these changes on the behaviour of two children each experiment. In Experiment 1 changes in teacher behaviour produced significant reductions in the behaviour of both target children. In Experiment 2 changes in teacher behaviour were accompanied by continued improvement (which had begun during

the Baseline Phase) for both target children. In Experiment 3 changes in teacher behaviour produced a significant reduction in the inappropriate behaviour of one of the target children. Finally, in Experiment 4 changes in teacher behaviour produced improvements in one of the two target children. In three of the four experiments the implementation of the training programme produced concurrent changes in the management behaviour of the teachers. It is also likely that this occurred in Experiment 3, although in that case the teachers began to implement the programme before they were required to do so.

As a result of the replication achieved in the present experiments four conclusions may be drawn. First, the introduction of each of the four variations of the training programme produced changes in the management behaviour of the teachers in each kindergarten. Although there were differences between the four experiments, in each case there was an increase in the rate of positive responses of the teachers, a decrease in the rate of negative responses of the teachers, and, for three of the children (BK, SA, & JN), the use of an inclusionary time out procedure.

Secondly, two of the experiments (Experiments 1 and 3) had a Criterion of Acceptable Performance (CAP) for the positive responses of the teachers. In those two experiments where a CAP was required a better level of differential attention was achieved than in the two experiments where no CAP was required. However there were a number of extraneous variables which may also have had an impact on the relative effectiveness of the training on the teachers in each setting. These were the extent to which the Training and PSP Programme was consistently implemented across the four experiments, the differing learning and training experiences of those being trained, and the behaviour of the individual children prior to training. There were some differences in the way in which the training programme was implemented. In Experiment 4, for example, the Implementation Phase was longer than in the other experiments due to the absences of ZK. It is also the case that the workshop sessions conducted by the trainer, while they were very similar and followed the same sequence of instruction and implementation, were not identical. This was because of variations in the requirements, organisation, and children in each setting. One of those requirements was the differing learning histories of those being trained. In Experiment 3

the teachers had received more prior training in behaviour management than had the teachers in the other experiments. This meant that a little less time needed to be spent on workshop activities relating to the acquisition of some concepts in the training programme. It is also possible that this prior knowledge and training may explain premature implementation with RY. The extent to which the prior learning histories of the teachers in Experiment 3 influenced the changes which occurred in the present training is not known but may well have served to boost the effects of the training. The second extraneous variable which may have had an effect on the effectiveness of the training were differences between individual children and the teacher's reactions to them. Children who display high rates of antisocial behaviour are very often aversive to those around them. The history of the relationship between the individual teachers and children may well have had an influence on a teachers responses to certain children. In Experiment 1, for instance, BK engaged in much higher rates of aversive behaviour than CY, and was viewed by the teachers as more of a problem.

Thirdly, four measures were obtained of the effects of the training programme on teacher behaviour - one in each of the four separate kindergartens with four different groups of teachers. The effects in each case were similar. There was an increase in the differential attention achieved by the teachers in each kindergarten. Although the extent of the improvement in differential attention varied, this was possibly due to the experimental variations or other variables described earlier.

Fourthly, eight measures of the effects of the changes in teacher behaviour on pupil behaviour were obtained. Two measures were obtained in each kindergarten and this was repeated in four kindergartens, giving eight measures in total. The effects of this treatment on the eight target children were similar, but not the same. In Experiment 4, ZK was unaffected by the treatment programme. In Experiment 2 the level of inappropriate behaviour for both ST and BE had steadily declined across the Baseline Phase, thus making any definitive conclusion about the effectiveness of the training programme problematic in that experiment. What can be said is that the improvements in behaviour which had occurred during the Baseline Phase continued after the introduction of the treatment and were maintained during the Follow-up Phase.

Thus, while any conclusions about the effectiveness of the training programme on the management behaviour of the teachers are not as strong as they would have been had a greater degree of direct replication occurred, it can, nevertheless, be tentatively concluded that the replication of these effects across each of the four settings does suggest that the training programme produced real changes in the management behaviour of the teachers within each setting.

Observational sessions and phase changes. In order to achieve an accurate measure of within-phase frequency and trend of a behaviour, sufficient observations must be undertaken within each phase. Phases where there is a marked trend indicating an increase or decrease in behaviour mean that the within-phase mean cannot be used as a measure of the frequency within the phase. Phases which are too short may not provide a reliable measure of within-phase frequency and also makes the identification of trends difficult. In the present experiments this could have been problematic as the length of each phase was determined by the progress of the training programme, rather than waiting until the frequency of occurrence of the observed behaviour had stabilised.

In the four experiments there were some 16 phases related to teacher behaviour and 11 phases related to child behaviour. The baselines in the training section of the experiments (those related to teacher behaviour) were comparatively short in duration. However, with the possible exceptions of BK (in Experiment 1) and JN (in Experiment 4) there was not a great degree of variability. The follow-up phases of the training section of the experiments and the implementation section of the experiments (those related to child behaviour) were also very short. Because the follow-up data was stable in all four experiments it can be concluded that the length of these phases was sufficient in each case. All of the remaining phases in each of the experiments were very long, ranging from eight sessions (in Experiment 3) to 19 sessions (in Experiment 4). Consequently, the frequency estimates which were recorded for those phases should have provided an accurate representation of the behaviour with one exception. In Experiment 2 (for both ST and BE) and in Experiment 3 (for RY) there was a marked declining trend in the level of inappropriate across the Baseline Phase. This was problematic as it meant that the

intervention was introduced at a point where the rate of inappropriate behaviour was already declining. Introducing the intervention at this point made it impossible to determine whether or not the intervention had an effect on child behaviour. The inappropriate behaviour may have declined to zero of its own accord. For practical reasons it was necessary to introduce the Implementation Phase once training had been completed. However, in future experiments of this type it may be advisable to postpone the introduction of the intervention until child inappropriate behaviour has stabilised.

Treatment Fidelity

Treatment fidelity or integrity refers to the extent to which the independent variable is implemented and carried out as planned (Cooper, Heron & Heward, 1987). Wolery (1994) argues that in cases where the independent variables in an experiment are carefully monitored it allows the experimenter to be more confident about the relationship between those variables and the dependent variable. Without careful monitoring of the independent variable any conclusions which may be drawn about its relationship with the dependent variable are more tentative.

The experimenter attempted to control the training in two ways. First, the training programme was written down in a manual which was used for the training in each setting. Secondly, the same person conducted the training in each setting. However, the fact that no systematic observational data was collected on this aspect of the training programme was a shortcoming in the procedures used in the current research. Nor was data collected on whether or not the teachers implemented the tangible reinforcement component of the treatment programme. The only data collected in this regard was incidental data based on the casual observations of the trainer and observers. While this also was a limitation of the procedures used in the current research it was partly overcome by the requirement that tangible reinforcement could only be used in conjunction with positive teacher responses (which were recorded). The fact that no observational data was collected on the implementation of the training programme and the use of the tangible reinforcement aspect

of the programme were major shortcomings in the present experiments. Future experiments of this type would provide valuable information if such data were collected. Treatment fidelity data were collected with respect to part of the interventions introduced by the teachers as a result of the training. The number of positive and negative teacher responses were recorded and reported in each experiment, as was the use of the "sit and watch" procedure for the three children to whom it was applied.

PART 2

The Accuracy of the Screening Procedure

In order to identify young children with behaviour disorders one major issue had to be addressed. That was whether or not the Standardised Screening for Behaviour Disorders (SSBD) was able to identify preschool children who were behaviour disordered. The screening procedures used in the present study had three steps: (a) the teachers identified children in their kindergarten whom they considered difficult to manage, (b) those children identified at Step 1 were then scored independently by the teachers in each kindergarten on the Canterbury Social Development Scale, and (c) the children who scored below the 150 cut-off point at Step 2 were then observed in the kindergarten setting. In the Pilot Study and four experiments those children who reached Step 3 in the identification procedure engaged in rates of inappropriate behaviour which ranged from 8.5 per cent of recorded intervals to 19.0 per cent of recorded intervals. This may be compared to rates of inappropriate behaviour ranging from 1.2 per cent to 4.4 per cent for the three control children not identified by their teachers as difficult to manage in the Pilot Study.

The conclusion which can be drawn from these results is that the three-stage screening procedure used in the present experiments did identify children who were behaviour disordered. The possible exception was CY in Experiment 1 whose scores on the CSDS were well below the 140 required for identification as being behaviour disordered, but whose baseline observations indicated rates of inappropriate behaviour were

some 4.8 per cent of intervals. It was decided to include CY in the experiment for two reasons. First, his baseline rates of inappropriate behaviour were very close to the 5 per cent level which was the guideline for inclusion. Secondly, he frequently interacted with BK (the other child included in the experiment) and, as a result, was likely to have an effect on BK's behaviour. This result has considerable implications for educational practice. It provides teachers who work in preschool settings with a relatively quick, simple, and objective way of identifying children with significant behaviour problems at an earlier age than is traditional for such identification to occur.

In the present experiments no attempt was made to determine whether or not the SSBD accurately discriminated between preschool children who were behaviour disordered from those who were not, merely to identify some who were behaviour disordered. Future experiments concerned with the accurate and reliable identification of preschool children with behaviour disorders would provide valuable information and procedures through the systematic examination of this question.

PART 3

The Training Programme and its Effects

The Acquisition of New Teaching Skills

The experiments reported herein provided further data regarding the training conditions necessary for the acquisition of new teaching skills by teachers.

All of the training programmes reviewed in Chapter 4 consisted of various combinations of prompting and/or explanations, and/or knowledge, and/or rehearsal, and/or practice, and/or feedback. The review concluded that in order to acquire new behaviour management skills, trainees must be provided with prompting, practice , and feedback. Additional components seemed to add little to the training effects when these three essential components were present.

In the Pilot Study, the teachers were presented with a training programme which consisted of two parts; a knowledge part (which was presented in the form of readings and workshops) and a practice part (which asked the teachers to implement the skills learned during the workshops). Because those being trained were teachers who had a history and background of training, and because they had indicated that they were positive about the training, it was hypothesised that the level of trainer direction, prompting and feedback which would be required would be somewhat less than that required to train parents to perform the same skills. This assumption proved to be incorrect. The teachers in the Pilot Study did not markedly change their management behaviour despite the fact that they believed they had.

A summary of the results from the training programme in the four experiments are contained in Table 9 which shows that following the training the teachers in all four kindergartens (a) increased the mean number of positive responses engaged in and (b) reduced the mean number of negative responses engaged in per session.

Despite the presence of the extraneous variables which may have influenced the training of the teachers in the four experiments, the experiments provide four separate measures of the effects of the Training and PSP Programme on teacher behaviour. In all four experiments similar changes in teacher behaviour were observed, increases in the positive responses and decreases in the negative responses of the teachers in each setting. Because the training appeared to produce similar effects on the management behaviour of the teachers in all four experiments, it can be tentatively concluded that the training procedures were sufficiently powerful to overcome the effects of the extraneous variables described in Part 1.

The effects of the four experimental treatments on teacher behaviour, summarised in Table 9, were less clear. Experiment 1 used the same knowledge and practice components as the Pilot Study with several significant changes. The first was the addition of stronger trainer direction in terms of the nature of the treatment procedure to be used and the use of a

Table 9

The Mean Number of Positive and Negative Teacher Responses per 30 Minutes to the Target Children across the Baseline, Implementation, and Follow-up Phases of the Pilot Study and Four Experiments and a Comparison of the Changes from the Baseline Phase to the Implementation and Follow-up Phases.

			Within phase frequency per session				
			Baseline	Implementation	Follow-up	B-I	B-F
Experiment	Children						
Pilot	MK	Tr1	0.1	1.0		+0.9	
		Tr2	1.0	0.5		-0.5	
Pilot	RY	Tr1	0.6	1.0		+0.4	
		Tr2	1.0	0.0		-1.0	
1	BK	Tr1	5.2	8.8	5.4	+3.6	+0.2
		Tr2	7.6	1.1	1.4	-6.5	-6.2
1	CY	Tr1	0.3	7.1	2.4	+6.8	+2.1
		Tr2	1.0	0.0	0.6	-1.0	0.4
2	ST	Tr1	1.6	5.1	2.5	+3.5	+0.9
		Tr2	2.0	1.0	0.2	-1.0	-1.9
2	BE	Tr1	1.8	5.4	2.4	+3.6	+0.6
		Tr2	1.0	0.6	0.2	-0.4	-0.8
3	SA	Tr1	4.0	8.4	7.8	+4.4	+3.8
		Tr2	1.0	0.1	0.3	-0.9	-0.7
3	RY	Tr1	4.8	10.9	6.2	+6.1	+1.4
		Tr2	1.8	1.1	1.3	-0.7	-0.5
4	JN	Tr1	0.9	5.7	3.2	+4.8	+2.3
		Tr2	2.1	0.5	0.2	-1.6	-1.9

(Table 9 continued...)

4	ZK	Tr1	0.0	5.9	---	+5.9	---
		Tr2	1.3	0.7	---	-0.6	---

Key
Tr1: positive teacher responses
Tr2: negative teacher responses
B-I: Change from the Baseline Phase to the Implementation Phase
B-F: Change from the Baseline Phase to the Follow-up Phase

---

more reliable device to prompt the teachers to perform the required management behaviours. The second was the provision of various forms of feedback to the teachers. The third was the setting of a Criterion of Acceptable Performance (CAP) for the application of the newly learned management skills by the teachers. In this experiment the Training and PSP Programme produced a marked differential attention effect with an increase in the positive teacher responses and a continuing decline in negative teacher responses for both children. In addition the teachers used the inclusionary timeout procedure with one child, a procedure which had never been used with that child prior to this time.

In Experiment 2 no CAP for teacher performance was set and the feedback given was of a general nature only. The number of positive responses achieved by the teachers in this experiment, while markedly improved from their baseline performance, but was lower and more variable than that achieved by the teachers in Experiment 1. In this experiment the Training and PSP Programme produced a differential attention effect although it was less consistent across the phase. There were increases in the mean levels of positive responses for both children however there was a high degree of variability in both cases with ranges of 12 and 14 positive responses across the phase for the two children. The programme produced a continuing reduction in the rate of negative responses towards one child, but a slight increase for the other.

In Experiment 3, a CAP for teacher performance was set but in this experiment the feedback consisted of the teachers monitoring their own performance, which was discussed

by them at the end of the session. In this experiment the teachers achieved the CAP of six positive responses for one target child on five days out of a possible of six during the Implementation Phase and on all eight possible days for the second target child. In this experiment the effects of the Training and PSP Programme produced increased levels of positive teacher responses for one child (SA), and very probably for the other child (RY), with negative responses remaining at very low levels. In RY's case there was a sharply increasing trend in the teachers' positive responses towards him across the preceding phase, making any conclusion about the effect of the training programme less clear. Why this occurred is not certain but is possibly due to the fact that the teachers began to implement their newly acquired management skills before being requested to do so.

In Experiment 4, no CAP for teacher performance was set and the feedback given in this Experiment was not related to the behaviour of the teachers but to that of the target children. In other words, the teachers were told how the children had behaved that day, not what they themselves had done. In this experiment the Training and PSP Programme produced an increase in positive responses for both children, although in the case of the ZK the data is very variable with a range of 9.0 across the phase. The training produced a reduction in negative responses for JN but showed a slight increase for ZK.

In the two experiments where a CAP was set the teachers were largely successful in attaining the level required. In Experiment 1, apart from two occasions out of a possible 12 for one child and one out of a possible seven for the other child, the teachers reached the CAP of six positive responses during the 30 minute recording period every day during the Implementation Phase and, on most days, went well beyond six responses. In Experiment 3 the teachers achieved the CAP for one child on five days out of a possible of six and on all eight possible days for the second child. In the two Experiments where no CAP was required (Experiments 2 and 4) the number of positive responses achieved by the teachers, while an improvement on baseline performance, was generally lower than in Experiments 1 and 3, and showed greater variability for three of the four children.

It seems clear from the results that in those experiments that where a CAP was set, and where the feedback given to the teachers was contingent upon their achieving this CAP,

the rate of positive responses given to the target children reached higher levels more consistently than it did in the experiments where no CAP was required.

The data from these experiments suggest that three conditions are essential if teachers are to acquire new teaching skills, while a forth appears to be desirable. The essential conditions are prompting, practice, and feedback as suggested by Sanders, (1982). The desirable condition is the setting of a Criterion of Acceptable Performance (CAP) on the performance of the new skills by the teachers as suggested by Engelmann (1988) and Rose (1994) who claim that when new teaching skills are practised there must be clear and specific prompts and feedback provided by the "supervisor". The role that the CAP plays in the training process is to enable the trainer to give, and the teachers to receive, feedback which is contingent upon the achievement of a specific level of performance. In cases where the CAP was not present the teachers knew only that they had improved on their performance during the Baseline Phase, but had no idea by how much or even what level of performance they had reached. In other words, the feedback in Experiments 1 and 3 was clear, specific, and contingent on the level of performance, while in Experiments 2 and 4 it was not. It seems clear from the results of these experiments that when training new skills the same components need to be present regardless of whether one is training children, parents, or professionals who already have some previous training in the field. In fact some writers argue that teaching skills, like other skills, should be practised to fluency (Engelmann, 1988; Rose, 1994).

The results of the four experiments in this thesis support the view that in order to train teachers to better manage the behaviour of young children with behaviour disorders, the same components and level of structure are necessary as those in the programmes necessary to train parents in the same skills.

Social Validity of the Training Programme

Social validity is the extent to which efforts to change behaviours are socially important in an individual's life (Cooper, Heron, & Heward, 1987). For instance, if a

training programme had been successful in changing the behaviour of a group of teachers but none of the teachers believed the training had been of any relevance or of value, there is little possibility that they would continue to use it and it would have little social validity. According the Cooper, Heron and Heward (1987) one of the most effective means of ensuring the social validity of any research is to specify the treatment goals prior to the commencement of any training or treatment programme. In this way the experimenter is able to provide, in advance, the guidelines on whether or not the treatment was successful and those being trained are aware of what changes are required and whether or not they have achieved those changes.

In the present experiments the goals for the experiments were established prior to the commencement of the experiments. Although it occurred in different ways, it was clearly established with the teachers in each experiment that their goal was to improve their positive responses, reduce their negative responses, and, where appropriate, implement the "sit and watch' procedure with the target children. It was also clearly established that the primary goal of their training was to bring about improvements in the behaviour of the target children in each experiment.

The teachers who took part were all asked to comment on the effectiveness of the programme and how they perceived it in terms of their own daily work and routine. All 15 of the teachers who took part in the research agreed that the training programme was effective in terms of the goals which had been established, and that they had been able to implement the procedures which they had learned in an during the training. While the results from the Pilot Study would tend to indicate that teacher perceptions of training do not necessarily reflect the observational data, it is nevertheless helpful that the teachers perceived the training as useful. It is unlikely that even the most effective management procedures would be implemented if those being trained were to perceive them as a waste of time.

PART 4

Effects of the Interventions on the Children's Behaviour

Any training programme which seeks to improve the management skills of teachers must also seek to produce improvements in the behaviour of children with behaviour disorders. The application of the newly acquired management skills may produce immediate effects on the behaviour of the children and, in certain circumstances, long-term improvements.

A comparison of the inappropriate behaviour of the target children across the three phases of the experiments is shown in Table 10.

As Table 10 shows, in the Pilot Study RO's level of inappropriate behaviour decreased at the onset of the Implementation Phase, while that of MK increased. Both of these occurred despite the fact that there was no observed change in the behaviour of the three teachers in that kindergarten. The reasons why the changes occurred for these two children is not known, however it is unlikely that the changes were related to any change in response from the teachers. In all four subsequent experiments, however, there were reductions in the levels of inappropriate behaviour demonstrated by the seven of the eight children during the Implementation Phases of the experiments.

In Experiment 1 changes in teacher responses were accompanied by reductions in the levels of inappropriate behaviour for both BK and CY. During the Baseline Phase BK demonstrated high levels of inappropriate behaviour with considerable variability. The intervention at the commencement of the Implementation Phase produced an immediate reduction in the level of inappropriate behaviour with a decreasing trend. Although the level of CY's inappropriate behaviour was not as high as that of BK during the Baseline Phase, the intervention produced an immediate reduction in the level of inappropriate behaviour with a flat trend across the phase. In this experiment there was a clear improvement in the behaviour of both children which began at the commencement of the Implementation Phase

Table 10

The Percentage of Intervals in which the Target Children Performed Inappropriate Behaviour Across the Baseline, Implementation, and Follow-up Phases of the Pilot Study and Four Experiments and a Comparison of the Changes from the Baseline Phase to the Implementation and Follow-up Phases.

	Percentage of Intervals				
	Baseline	Implementation	Follow-up	B-I	B-F
Child					
MK	5.7	10.4		+ 4.7	
RO	5.9	3.0		- 2.9	
BK	17.5	5.5	6.4	-12.0	-11.1
CY	4.8	1.7	2.2	- 3.1	- 2.5
ST	8.2	3.5	5.0	- 4.7	- 3.2
BE	9.9	3.5	2.4	- 6.4	- 7.5
SA	12.3	3.3	3.8	-9.0	- 8.5
RY	7.3	4.4	5.0	- 2.9	- 2.3
JN	18.1	11.4	11.2	- 6.7	- 6.9
ZK	11.2	9.0	---	- 2.2	---

Key
B = Baseline Phase
I = Implementation Phase
F = Follow-up Phase
B-I = Changes from the Baseline to the Implementation Phases
B-F = Changes from the Baseline to the Follow-up Phases

by the teachers and, consequently, it can be concluded that the changes in the behaviour of the children can be attributed to the intervention.

In Experiment 2 it is less clear whether the improvements in the behaviour of ST and BE can be attributed to the intervention by the teachers. In this experiment the inappropriate behaviour of both children was decreasing across the Baseline Phase and this decrease continued after the intervention was implemented.

In Experiment 3 the intervention had a clear effect for SA but less so for RY. SA demonstrated high rates of inappropriate behaviour with a slightly decreasing trend across the Baseline Phase. At the commencement of the intervention there was an immediate reduction in the level of inappropriate behaviour with a marked decreasing trend. The effects of the intervention on RY are a little less clear. During the Baseline Phase there was a reducing trend in the level of inappropriate behaviour. This continued and flattened at the commencement of the intervention. While it can be claimed that the intervention caused the improvement in SA's behaviour, no such claim can be made with respect to RY.

In Experiment 4 the intervention had a clear effect for JN but no effect for ZK. JN demonstrated high and variable rates of inappropriate behaviour during the Baseline Phase. At the commencement of the intervention this level halved and the variability reduced. The intervention had no effect on ZK's behaviour. One possible reason for that is the great variability of the teachers' positive responses to him during the intervention.

It is interesting to note that the greatest reductions in the levels of inappropriate behaviour occurred for the children who initially displayed the highest levels of inappropriate behaviour (BK, SA, and JN). In addition the data collected during the Follow-up Phase of the four experiments shows that the improvements which had occurred during the Implementation Phase had, for the most part, been maintained. Although the levels of inappropriate behaviour had begun to increase when the follow-up data was taken in some cases, those levels were still well below that recorded during the Baseline Phases of each experiment.

The question of what constitutes a successful intervention may be approached in several ways. There are two issues here. First, what is the minimum level of inappropriate

behaviour which is acceptable in a kindergarten setting? Secondly, how do we decide when a child is conforming to this standard? The data in Table 4, suggests that children identified as being within the "normal range" may engage in inappropriate behaviour up to 5 per cent of the time. If this is the case any intervention which reduces the levels of inappropriate behaviour of children identified as behaviour disordered to 5 per cent or less could be said to have been successful.

There are several points following the intervention in each experiment at which it could be determined whether or not the level of 5.0 per cent had been reached. However, there would seem to be little point in bringing about any improvement in the behaviour of the children unless that improvement was present at the Follow-up Phase. If any improvement gained is only temporary, the longer term benefit for the child and teachers is limited. As a result the criterion used to determine the success of the interventions was the level of inappropriate behaviour during the Follow-up Phase. Using this criterion the intervention was successful for five of the 8 target children (CY, ST, BE, SA, and RY).

This analysis does not take account of a number of features of the interventions which appear to have been present. First, although CY was included as a successful intervention his level of inappropriate behaviour was less than 5.0 per cent prior to the intervention and it is doubtful whether he should have been included. Secondly, both ST and BE had begun to show decreases in their levels of inappropriate behaviour prior to the intervention. While it is not clear whether or not the intervention produced those initial changes, the improvements which were made were maintained. Thirdly, using the criterion described above neither BK or JN was included as their levels of inappropriate behaviour during the Follow-up Phase were 6.4 per cent of intervals and 11.2 per cent of intervals respectively. While these are higher than the 5.0 per cent criterion decided upon, both of these children began the intervention phases of the experiments with higher levels of inappropriate behaviour than any of the other children in the four experiments (BK with 17.8 per cent of intervals and JN with 18.1 per cent of intervals). In addition BK's level of inappropriate behaviour decreased to 6.4 per cent of intervals during follow-up, only marginally higher than the 5.0

per cent criterion stipulated. As a result of these factors it could be reasonably argued that the intervention had been successful for BK as well.

The next question to be addressed is whether these changes can be attributed to the changes in teacher behaviour which occurred during training. The results obtained in the experiments in this study are consistent with the results of previous research. In the Pilot Study the teachers failed to consistently carry out aspects of the training programme, did not give the target children differential attention, did not use strong activity or tangible reinforcers, and did not use any form of aversive consequence if severe antisocial behaviour continued. The result was that although the behaviour of both children changed, this could not be attributed to the management behaviour of the teachers. In Experiments 1, 2, 3, and partly in Experiment 4 the teachers did implement the intervention procedures described in the training programme and, when they did, there were, in some cases, concurrent reductions in the levels of inappropriate child behaviour and increases in the levels of appropriate behaviour which occurred. These reductions in the rate of inappropriate behaviour occurred for BK, CY, SA, RY and JN. Although there were reductions in the rate of inappropriate behaviour for ST and BE as well, these cannot be attributed to the intervention. There was no reduction in the rate of inappropriate behaviour engaged in by ZK.

The use of time out remains a difficult issue in early childhood settings. Some teachers consider this procedure to be inappropriate for confronting the inappropriate behaviour of small children either because it contradicts their philosophy of child management or because they believe that Ministry of Education regulations forbid its use. Other teachers are prepared to use it and do so effectively. The use of inclusionary time out in the experiments in this thesis was based not on the specific behaviour of the children, but more on whether or not the teachers were prepared to use it.

In the present study it was easier to persuade teachers to apply time out to those children who displayed higher rates of inappropriate behaviour and whose behaviour was more disruptive towards others (BK, SA, and JN). Had the time out procedure been used with all of the target children then greater changes may well have resulted with them as well.

While this situation was not particularly satisfactory from an experimental point of view there was little that could be done about it as it would have been unethical to ask the teachers to use a procedure which they were averse to using for whatever reason.

Maintenance of the Changes in the Children's Behaviour

The results shown in Table 10 show that in all cases where follow-up data was collected, the subject children had maintained the improvements in their behaviour three weeks after the conclusion of the Implementation Phase. While there were small increases in inappropriate behaviour for some of the children, the levels of inappropriate behaviour recorded during the Follow-up Phase remained well below the levels recorded during the Baseline Phase in all cases.

In Chapter Three five conditions were identified as being necessary to maintain changes in newly acquired behaviour. These were (a) that desired behaviour must be taught to the child if it is not known, (b) that instructions and prompts must be established as stimuli for appropriate behaviour by differentially reinforcing appropriate responses to those prompts, (c) that social reinforcers must be paired with stronger primary reinforcers during the initial part of the treatment programme, (d) that prosocial behaviour must generate more reinforcement than antisocial behaviour, and (e) that newly learned behaviour must be well established and reinforcement faded slowly if it is to be maintained. All of these conditions were provided for in the training programme described in the current experiments, although to what extent each of these variables influenced maintenance is not known.

With the exception of the children in the Pilot Study and ZK in Experiment 4, all of the target children learned new social skills as a result of the teachers' work during the Implementation Phases of the experiments. Skills such as taking turns, following simple instructions, working on a task, using equipment appropriately, and playing with others were all prompted and reinforced during the Implementation Phase. If the teachers did not think the target child knew how to perform a specific form of appropriate behaviour they were asked to model it to the child when the need to perform the behaviour presented itself

in the setting. It is possible that the amount of reinforcement that was being received for these new behaviours from other sources was enough to sustain them even when teacher reinforcement was reduced after the Implementation Phase.

In Experiments 1, 2, and 3 there appeared to be greater acceptance by other children in the peer group than in the Pilot Study and Experiment 4. Prior to the treatment it was unusual for other children to initiate and sustain contact with any of the target children in the experiments. In fact, the other children preferred to keep away from them. This situation changed following the treatment. There tended to be greater positive contact between the target children and their peers. For instance, one of the children in Experiment 2 got invited to a birthday party, the first one he had ever been invited to since starting at the kindergarten. Three of the target children, in Experiments 1, 2, and 3 also received invitations to go and play at the homes of other children, something which had never occurred before.

Another possible reason why maintenance occurred for child behaviour was that the target children tended to be engaging in higher rates of appropriate interactions with peers and appropriate activities within the kindergarten. Prior to the Implementation Phase it was common for the target children to be engaged in inappropriate behaviour either by not interacting appropriately with their peers, or by breaking the rules in the kindergarten. Following the Implementation Phase in these three experiments it was noticeable that the target children spent more time engaged in appropriate tasks and in interacting in an appropriate fashion with their peers.

In Experiment 4, the situation was different for each of the two target children. In the case of JN, the teachers did succeed in reducing his inappropriate behaviour and increasing his appropriate behaviour during the Implementation Phase and into the Follow-up Phase. In the case of the second child in Experiment 4, ZK, the situation was a little different. Perhaps due to his continual absences, the teachers responses to him during the Implementation Phase were extremely variable and, as a result, there were no marked changes in his behaviour to maintain. Throughout the course of the whole experiment he remained a solitary child who seldom interacted in an appropriate manner with either his

peers or the teachers. No maintenance data was collected for ZK as he had stopped attending the kindergarten prior to the commencement of the Follow-up Phase.

There are several important implications in these results for teachers of young children. The first is that it should not be assumed that children who demonstrate inappropriate behaviour necessarily know how to perform desired responses. If they do not, these must be directly taught in the same way that other social and academic behaviours may need to be taught. Secondly, once the new behaviour is acquired it must be practised to fluency and reinforced by those in the child's natural environment, their parents, teachers, and peers. Finally, teachers need to maintain their reinforcement for the newly acquired behaviour at a level sufficient to ensure that the child continues to practise that behaviour and does not return to their previous inappropriate ways of responding. Put in another way, the problem behaviour may initially have to be viewed as a remedial problem in much the same way that deficits in reading or mathematics are viewed as remedial problems. Effective treatment may not involve trying to ascertain underlying problems in the child's psyche, but merely teaching her or him what to do, how to do it, and when to do it (Walker, Colvin, & Ramsay, 1995).

Planning Intervention Procedures

In the present experiments the same set of management procedures (with minor adjustments) was applied to all of the behaviour disordered children. The results show that these management procedures produced improvements in behaviour for some of the children, but not others, and that the amount of improvement varied from child to child. The problem with applying a set of generic management procedures to all of the children was that those procedures may have been better suited as interventions for some of the children and not others. As a result time and effort may be wasted implementing procedures which were unlikely to succeed from the outset. Research designed to increase the level of precision in the planning of intervention procedures may save parents, teachers, and therapists many hours of disappointment when initial efforts do not work.

In addition to occurring at different rates, antisocial behaviour can also serve different functions (Kennedy, 1994; Patterson, 1982). In some cases the antisocial behaviour serves to elicit compliance from other children and adults. This appeared to be the case for BK, SA, JN, and ZK in the present experiments. Patterson (1982) refers to the "coercion cycle" whereby young children learn that the performance of antisocial behaviour eventually results in other children and adults complying with their wishes. Thus, the antisocial child is positively reinforced for behaving in a coercive or antisocial fashion and, at the same time, other children and adults are negatively reinforced for backing down and complying with the antisocial child. In other cases the antisocial behaviour serves to avoid certain tasks for the antisocial child (Kern, Childs, Dunlap, Clarke, & Falk, 1994). In these cases the child's antisocial behaviour is prompted by the instructions to perform particular tasks, such as academic tasks and negatively reinforced when the instructions are withdrawn. This was the case for all of the children who participated in the present experiments.

One approach to the identification of the behavioural contingencies maintaining inappropriate behaviour in specific children is that of functional analysis (Kennedy, 1994; Kern et al., 1994; Northup et al., 1994). Functional analysis seeks to identify the specific behavioural contingencies that may be producing certain antisocial behaviour, rather than merely observing the antisocial behaviour in isolation. If the setting events that are serving to prompt the antisocial behaviour can be identified during the assessment of the child, the type of treatment required is immediately clearer to the clinician. For example, Kern et al. (1994) were able to formulate five specific treatment procedures that were able to be immediately applied to improve an 11 year old boy's on-task behaviour in academic subjects. Northup et al. (1994) used pre-assessment observations in order to identify the contingencies which were operating to reinforce the inappropriate behaviour of five young children in a special education class. For each of the five children the researchers were able to identify the contingencies which were maintaining antisocial behaviour.

A functional analysis serves two functions. The first is to gather data on the inappropriate behaviour being performed by the child. The second is to identify the antecedent and consequent events occurring "around" the inappropriate behaviour which, if

changed, will likely result in a change in the inappropriate behaviour itself. Procedures such as this assist the clinician to identify the type of intervention which will be required to treat the child with behaviour disorders and help to remove the "trial and error" such as occurred in the experiments in this thesis. Had the specific antecedent and consequent events surrounding both the appropriate and inappropriate behaviour of the target children in the four experiments been identified more accurately, more effective and better targeted interventions may have resulted.

PART 5

Maintenance of New Teaching Skills

A training programme cannot be judged to be effective unless the trainees continue to use their new skills once the training programme has been completed, that is unless the newly acquired skills are maintained. In the present experiments the main skill which was trained was that of differential attention. A question of considerable importance is the question of how the maintenance of differential attention is to be measured following training. What counts as "maintenance" when the term is applied to those skills necessary to teach behaviour disordered children?

One way of assessing maintenance would be to see whether the behaviours which were used by the teachers during the Implementation Phase continued to be used at a similar level at the Follow-up Phase some weeks later. Although this is the normal procedure for assessing maintenance, this procedure makes little sense. If the child's inappropriate behaviour has been replaced by appropriate behaviour, the high level of teacher attention to appropriate behaviour needed to bring about the change may no longer be necessary once the transition from inappropriate to appropriate behaviour has been achieved. As the behaviour of the behaviour disordered child begins to approximate that of normally developing children, so the teachers' reactions to these children should become much the same as their reactions to normally developing children.

If the high rates of teacher responses which were necessary initially, have declined because the rates of inappropriate child behaviour have declined to low levels, how does one assess whether or not the new skills have been maintained? The only definitive way of measuring maintenance under these conditions would be to allow for the inappropriate behaviour of the target children in the experiments to recover to a level where the teachers would have been required once again to implement their new management behaviours, or, alternatively, to give the teachers another behaviour disordered child and to observe how they responded to him or her. Neither of these procedures were used in any of the experiments reviewed nor were they used in the current experiments.

In order to get some idea whether or not the teachers in the present experiments had continued to use the skills taught during the training programme, the trainer telephoned all of the kindergartens involved in the four experiments and asked them whether or not they had enrolled another behaviour disordered child over the last two years and what they had done to manage her or him. All of the kindergartens still had staff present who had been involved in the training. All said that they had several children with behaviour disorders who had attended following the conclusion of the training programme and all said they had used the skills which they had learned as a result of the training programme. Three of the kindergartens used the CSDS to screen the children. Two of the kindergartens reported that they had "located and dusted off" the prompting device (which had been donated to them) in order to get them focused on the task once again and all stated that it was good to have some definite techniques to call on when the situation of another behaviour disordered child had arisen. While the reliability of teacher reports is open to question, it is, at the very least, encouraging that the teachers could clearly state what had happened, how they had assessed the child, and the management steps which they had taken to improve the children's behaviour.

PART 6

Training Implications

Attempts to identify the training components necessary for the maintenance of newly acquired skills all have one feature in common, and that is that maintenance cannot be assumed to be a natural progression from acquisition, but should be regarded as a separate outcome which must be specifically trained for (Robinson & Swanton, 1980; Sanders & James 1983; Stokes & Baer 1977). Thus, the implications for future research in this area are clear. Presumably new teaching skills will be maintained only if they continue to generate reinforcement. The continued reinforcement of newly acquired teaching skills following the termination of training can be accomplished in several ways. The first is to use non-professional volunteers to meet with the parents (or teachers) at regular intervals following the training in order to continue to reinforce them for using the new skills (Sanders & James, 1983). The second is to bring the new skills to fluency so they continue to generate reinforcement in the form of desired pupil behaviour (Howell & Lorson-Howell, 1990). The third is to teach self-monitoring skills that will enable the parents (or teachers) to monitor their own behaviour following the training (Wells, Griest & Forehand, 1980). In the four experiments in this thesis the third approach was used. The trainer asked the teachers to carry out a number of actions following the conclusion of the Implementation Phase which were designed to ensure that the teachers would continue to give praise and feedback to each other for their work with the target children. These included (a) short daily meetings to discuss the ways in which they had dealt with situations regarding the target children, (b) taking turns each week to monitor each other and the target children for brief periods and to comment on each others performance in a positive way (especially when a peer had to intervene either positively or negatively with one of the target children and (c) a slot at the weekly staff meeting where the progress of the target children was discussed and where the teachers could offer each other some support and reinforcement. They accepted

that in order to continue the progress that had been made with the target children they would need to continue the programme.

The Features of Current Teacher Training Programmes

It is often assumed by teacher trainers that the skills which are taught to teachers at both the preservice and inservice level will automatically be applied following training. This does not appear to be the case. Engelmann (1988) argues that less than 30 per cent of what is taught to teachers in training is transferred to natural settings. This claim is supported by several researchers. Daves, Morton and Grace (1990) found that the majority of the 110 new teachers that they surveyed in New Mexico were not using the strategies which they had been taught to use in teaching reading. After an intensive training programme designed to get student teachers to practise specific microteaching skills, Rose (1994) found that these same skills were not consistently performed by the students when given a practice opportunity soon after. In the Pilot Study described in the current research it was assumed that the teachers being trained would use the skills that were being taught. This was not the case.

According to Engelmann (1988) there are a number of requirements which must be met if teacher training is to result in the acquisition and maintenance of new teaching skills. These requirements include (a) decision making which is based on observational data, not teacher reports, (b) initial learning in simple situations with a great deal of practice, (c) up to six months of intensive prompting, practice and feedback to build fluency, and (d) the use of a highly skilled trainer who is proficient in the skills being taught, who can model those skills, and who can collect data on child behaviour. In the four experiments described in this thesis all of these requirements were present to some extent, however the amount of intensive prompting, practice, and feedback which the trainees received from the trainer was much less than that which Engelmann recommends.

Most preservice and inservice training programmes for teachers do not contain these components. Preservice training in New Zealand often involves large groups of students

being told about teaching for several weeks at a time, after which they are sent out to work with a teacher who may or may not practise the skills of teaching very well, and may not give any regular prompts or feedback to the student. Inservice training is often worse, with many teachers attending courses where they are "talked at" and get minimal, if any, opportunity to use the skills which they have been exposed to, and almost certainly get no feedback on how well they have used those skills.

If teachers are to effectively manage and remediate the behaviour of young children with behaviour disorders, it is clear that the kinds of training programmes which are offered at both preservice and inservice level will have to begin to include the components which are likely to bring about the acquisition and maintenance of new teaching skills, and not merely to hope that the skills will be acquired and maintained (Stokes & Baer, 1974).

PART 7

Unresolved Issues

Despite the presence of circumstances requiring a need for teachers to change their behaviour, and even a willingness to do so, there are a number of contextual factors which operate to prevent kindergarten teachers from acquiring and using the management skills taught in the current training programme.

The first are the rules and the internalised rules (beliefs) about how young children should and should not be treated. Early childhood philosophy and regulations have traditionally favoured developmental approaches to child management (Bee, 1991). Approaches to child management which are taught as part of the training process for the preparation of teachers in the early childhood field stress the need for unconditional positive regard and the re-direction of children who behave inappropriately. In fact, the Early Childhood Regulations published by the Ministry of Education (1990) expressly forbid the use of solitary confinement or immobilization which means that procedures such as exclusionary time out cannot be used to manage unacceptable behaviour. Many early

childhood teachers also believe that these regulations prohibit the use of inclusionary time out procedures such as "sit and watch".

Secondly, ineffective management behaviours have often been practiced for long periods of time with the result that they have become highly fluent. The most notable of these is re-direction. This is a procedure, widely taught in Early Childhood training programmes, which requires a child who is behaving inappropriately to be approached by an adult, spoken to about what they are doing, and then directed to another activity. Far from reducing undesirable behaviour, this technique may very well increase it by reinforcing the offending child with adult attention and the resulting access to a more preferred activity (Porterfield, Herbert-Jackson, & Risley, 1976). Although all of the empirical evidence suggests that some form of Type 2 punishment such as time out is much more effective than re-direction (Clark, Rowbury & Baer, 1973; Porterfield, Herbert-Jackson & Risley, 1976; Wahler, 1969), its largely automatic use in the kindergarten setting makes it a difficult behaviour to extinguish during a short training programme.

This raises the issue of the pre-service and inservice training of preschool teachers. Generally speaking social learning approaches have not been taught in the training programmes for preschool teachers. As a result the kind of structured and direct interventions used in the experiments in this thesis do not usually appear in the training of kindergarten teachers.

Thirdly, and possibly as a result of the developmental focus, preschool teachers are not trained in any method which they can use to effectively confront and manage violent, coercive, or severely antisocial behaviour in young children. Even the mildest form of Type 2 punishment (inclusionary time out) is considered by many early childhood teachers to be either prohibited or inappropriate in early childhood settings. This is the case even though most parents use some form of time out in their homes in order to confront inappropriate behaviour in that setting. Such techniques as placing a child on the other side of a room, in the hallway, or in their bedrooms are commonly used by parents, so one must ask why preschool teachers, if properly trained in their use, could not use the same procedures? It is clear from the research that antisocial behaviour which is being maintained by negative

reinforcement is likely to be suppressed only if it is punished (Patterson, 1982). Clearly, if successful intervention is to take place at an early age, then the teachers of young children must be allowed to use procedures which are ethically acceptable and are known to be effective in bringing about the desired improvements.

Fourthly, the implications for inservice teacher training from the findings of the present study are considerable and potentially far-reaching. Current training models in this area typically provide for inservice courses in two ways. The first is the half-day, one day, or two-day course where teachers from different schools gather for a seminar or workshop presentation, share ideas, and are then expected to go back to their respective settings and put into practice what they have "learned". The second is the longer course, perhaps up to 50 hours of seminars and workshops followed by some associated field work which requires course participants to use their newly-learned skills. No matter how it is arranged, the short course is too short to meet the basic requirements for the acquisition and practice of new skills. While the longer course could provide suitable training, such courses are not usually designed in a way that enables participating teachers to practise in natural settings and to receive the intensive prompting and feedback that will usually be necessary if they are to acquire the skills which are being taught. In neither case is it likely that the essential training components identified in this thesis will be present either in the workshops or in the field work aspects of such courses. As a result, the new skills which need to be acquired tend not be practised at all, or, if they are, are they do not receive sufficient practice.

To be effective, inservice training requires an experienced and skilled trainer to teach and demonstrate the desired skills to the teachers. The trainer also needs to be present in the setting where teachers would normally perform those skills to set the expectations for the changes required, to provide effective prompts to cue appropriate responses, and to give consistent feedback and reinforcement (Chick & Newcombe, 1994).

A training model, which includes all of these features, is the Reading Recovery training programme which is used to train the teachers of young children who are failing readers. Practising teachers are given an intensive one year training programme which involves seminars, workshops, and demonstrations in both clinic and school settings. The

skills which lead to improvements in children's reading skills, and which are those taught to the teachers, are clear, unambiguous, and based on sound research findings in the reading field (Clay, 1993). The tutors and teachers comment on and critique each other's performances at consistent intervals throughout the year and into the following year after the conclusion of training. Comments are made about what the individual teachers did well, what was not done well, what was not done at all, and what was done incorrectly. In this way the teachers' teaching behaviours are shaped over the course of the year and maintained throughout the following year by follow-up seminars and tutor visits to the setting where each teacher is working. The training programme requires the daily collection of data, and provides the teachers with decision-making rules to evaluate the progress of the children. It has been outstandingly successful both within New Zealand and overseas (Clay, 1993).

It is a training procedure similar to this which is required to train teachers to better manage the behaviour of children with behaviour disorders. As the present study has found, children who present as management problems can be identified at kindergarten or during the first year of school. A pool of highly skilled teachers could be trained to better manage those children identified as behaviour disordered in the same way, and using the same principles of effective training, as Reading Recovery teachers are trained to work with children who are failing at reading. Any form of training that does less than this may provide teachers with information about children who are difficult to manage, may allow them to discuss their feelings about the problem, and may even allow them to generate some possible solutions to the problem, but will almost certainly not allow them to acquire sufficient skills to do anything effective about it.

The present deficiencies of inservice training programmes for teachers identifies a large area for future research. The major focus of any such research needs to be on how to apply those conditions which are necessary for teachers to acquire and maintain new teaching skills in training programmes that are efficient and able to be implemented in natural settings. Most of the training programmes described and evaluated in this thesis required intensive trainer involvement with relatively few trainees, often in controlled environments. The cost of training all teachers, whether at preservice or inservice level,

under those kinds of conditions would be very great. The research challenge for those concerned with the training of teachers is to develop training programmes that can overcome these practical difficulties while still providing those components that are necessary for training to be effective.

A final impediment to the education of young behaviour disordered children is that kindergartens and schools do not have the resources to train parents. In the case of three of the children in the present study, the parents of the children came along to the kindergarten and asked to be trained in the same methods as those being used by the teachers. In each case the parents had either seen the teachers using the approaches taught or had noticed some changes in the behaviour of the children at home. If child behaviour change is to generalise to home settings, it will be necessary for both the teachers and the parents of the child with the behaviour disorder to target the same behaviour change goals using an approach that is consistent in both settings (Kauffmann, 1992; Tharp & Wetzel, 1969; Walker & Fabre, 1986; Stokes & Baer, 1977). Two New Zealand examples of this approach are the training procedures adopted by schools such as the McKenzie Residential School and the Glenburn Centre, both of which cater for children with behaviour disorders. In both of these schools, the parent (s) must agree to participate in a parent training programme before a child will be accepted into the school's programme. These programmes teach parents to use the same behavioural techniques that the staff of the schools use in order to improve the behaviour of the children who attend. This training usually involves periods where the parents have to live in the school, observe their children, observe the ways in which the staff respond to the children, and then practise responding in the same way. According to questionnaires sent to parents and teachers of children who have attended McKenzie Residential School, which were collected up to nine months after the children have left the residential school setting and gone back to their families and previous schools, some 75 per cent of the children have continued to behave in a manner generally acceptable to their families and schools.

The training of the parents of the children in this study was beyond the resources of the study, although where the parents expressed an interest, the teachers in the kindergarten

worked with the parent to teach the management skills which they were using in the kindergarten setting.

The present study demonstrates that it is possible to conduct practical research in natural settings in a way which enables the effective remediation of behaviour disorder in young children. Two goals for future research may be to examine the relative effectiveness of training programmes that seek to train significant adults in across several settings and how to implement effective training programmes in various settings without the need for on-going and intensive involvement from trained professionals.

The Future

What is the future for children with behaviour disorders and their parents and teachers? There is little doubt that the problems caused by these children both in home and school settings are of major concern. There is an increased demand from teachers and principals for separate residential schooling facilities as schools increasingly find the behaviour of some children beyond the scope of both their expertise and resources. In July 1994 the then president of the Canterbury Primary Principals Association, Basil Shead, stated at a Canterbury Principals Association meeting that another 10 McKenzie Residential Schools were needed in New Zealand. While this comment may be somewhat less than useful in helping to conceptualise and find solutions to the problem, it does illustrate the sense of frustration and urgency felt by professionals in their work with children with severe behaviour problems. There is also a feeling amongst teachers and principals that the number of behaviour disordered pupils is increasing (Canterbury Principals Association Survey, 1994). A recent government report by the Education and Science Committee (1995) acknowledges this when it examines the options in education for children with truancy and behavioural problems. The report notes that the number of these children is increasing for a variety of social reasons and supports the need for early intervention with these children and their families as well as specialist training for teachers in order that they will be more effective in remediating the behaviour of children with behaviour disorders. A

further measure of the current concern was that in March 1995 the whole of the Canterbury Primary Principals Association Conference was devoted to the issue of children with behaviour problems. The problem is presenting itself even in schools not traditionally used to having children with severe behaviour problems. The principals present continually expressed their feelings of frustration both at the lack of expertise and resources available for their schools to comprehensively address this problem.

The results of the present study indicate that it is quite possible to improve the behaviour of children with severe behaviour problems in normal settings if the intervention takes place early enough. The kinds of treatment procedures described in this study are more easily carried out with younger children, and the chances for long term success somewhat greater than if the intervention is left until the child is older (Patterson, 1982). Similarly the antisocial behaviours of the younger children can be more easily dealt with in normal settings than similar behaviours in older children. Violent and aggressive behaviour in children poses a threat to the safety of others at all age levels, however the threat increases as the size of the child increases and the intensity of the violence poses greater risks to the safety of others. It is at this point that suspension from school is necessitated. Intervention is likely to be less costly and has more chance of success if it occurs early in the child's life. The present study also suggests that it cannot be assumed that just because a teacher has a history and background of training that scaled down or partial training programmes will necessarily be successful in upskilling them. Basic training conditions (prompting, practice, and differential reinforcement) need to be provided to teach new skills even to teachers.

The importance of future developments in this field cannot be understated. If we are to make any progress at all in reducing the levels of coercion and violence in our homes, educational institutions, and society at large then continuing research and application in this field are essential. For too long now antisocial behaviour in young children has either been overlooked or explained away with increasingly tragic consequences at both the individual and societal level. If we know what can be done about this behaviour, and when it is best to do something about it, let us be brave enough to try.

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APPENDIX ONE

The Data for Teacher Responses across the various Phases of the Pilot Study and Four Experiments.

Pilot Study

Phase	Positives		Negatives	
	MK	RY	MK	RY
Baseline	00	00	01	01
	00	00	03	00
	01	00	00	00
	00	-	00	-
	00	00	01	00
	00	00	00	02
	00	02	03	03
	00	02	00	01
Mean	0.1	0.5	1.0	1.0
Training	00	01	00	02
	00	00	00	00
	00	03	00	00
	00	01	00	00
	-	02	-0	00
	00	01	00	01
	00	00	00	00
	00	00	00	00
	00	00	00	00
	00	02	00	00
	03	02	00	00
Mean	0.3	1.1	0.0	0.3
Implementation	01	03	01	00
	01	02	01	00
	00	00	01	00
	02	00	00	00
	00	00	00	00
	02	01	00	00
Mean	1.0	1.0	0.5	0.0

Experiment 1	Positives		Negatives	
Phase				
	BK	CY	BK	CY
Baseline	01	01	04	00
	10	00	03	00
	05	-	17	-
	08	00	11	00
	02	00	03	04
Mean	5.2	0.3	7.6	1.0

Training	02	-	00	-
	16	-	08	-
	03	01	02	01
	02	01	02	00
	02	02	01	01
	01	01	02	00
	01	01	01	00
	08	03	02	00
	01	03	07	01
Mean	4.0	1.7	2.8	0.4
Implementation	02	-	01	-
	10	05	02	00
	08	-	01	-
	13	06	01	00
	-	-	-	-
	12	11	00	00
	07	-	02	-
	08	04	01	00
	14	08	02	00
	06	09	01	00
	06	-	02	-
	11	-	03	-
	09	07	01	00
Mean	8.8	7.1	1.1	0.0
Follow-Up	03	02	01	00
	10	-	00	-
	03	03	05	00
	09	-	00	-
	02	02	01	02
	-	03	-	01
	-	02	-	00
Mean	5.4	2.4	1.4	0.6

Experiment Two	Positives		Negatives	
Phase				
	ST	BE	ST	BE
Baseline	00	00	02	00
	00	00	00	01
	01	04	00	01
	05	-	02	-
	03	04	12	05
	01	01	00	00
	00	02	00	00
	03	-	00	-
Mean	1.6	1.8	2.0	1.0
Training	02	-	01	-
	02	02	00	00
	01	01	01	00
	03	05	03	00

	00	01	01	02
	03	01	01	02
	00	12	00	01
	00	00	00	00
	00	00	01	00
	03	-	00	-
Mean	1.4	2.8	0.8	0.6
Implementation	05	11	00	00
	00	04	00	00
	04	00	00	01
	03	05	00	02
	13	10	01	00
	07	05	02	01
	05	05	02	00
	04	03	03	01
Mean	5.1	5.4	1.0	0.6
Follow-Up	02	02	00	00
	03	03	00	01
	02	02	00	00
	04	03	01	00
	02	02	00	00
Mean	2.5	2.4	0.2	0.2

Experiment Three	Positives		Negatives	
Phase				
	SA	RY	SA	RY
Baseline	02	-	01	-
	04	05	01	04
	06	02	00	00
	05	07	00	02
	03	05	03	01
Mean	4.0	4.8	1.0	1.8
Training	03	01	00	00
	03	02	00	00
	03	02	00	00
	05	04	00	00
	07	11	00	01
	05	08	00	00
	02	20	00	02
	08	11	02	00
Mean	4.5	7.4	0.3	0.4
Implementation	08	07	00	00
	10	16	01	01
	08	12	00	01
	10	08	00	01
	08	10	00	02
	-	13		02
	04	06	00	02
		15		00

Mean	8.4	10.9	0.1	1.1
Follow-Up	06	06	00	01
	06	08	00	03
	12	06	01	00
	08	04	00	00
	06	07	01	00
	07	06	00	04
Mean	7.8	6.2	0.3	1.3

Experiment Four	Positives		Negatives	
Phase				
	JN	ZK	JN	ZK
Baseline	01	-	03	-
	02	-	01	-
	00	00	02	03
	01	-	03	-
	01	-	03	-
	01	-	01	-
	00	00	01	01
	02	00	03	00
	00	00	02	01
Mean	0.9	00	2.1	1.3
Training	00	00	01	00
	00	01	02	00
	01	00	02	00
	00	-	02	-
	00	00	00	01
	00	-	02	-
	02	00	05	00
	01	03	02	00
	01	03	01	03
	03	07	01	00
Mean	0.8	1.8	1.8	0.5
Implementation	06	01	01	00
	09	-	00	-
	06	-	00	-
	06	05	00	00
	04	08	00	00
	04	07	02	01
	04	04	01	01
	05	02	01	01
	05	11	00	00
	05	-	01	-
	04	04	00	01
	05	-	00	-
	06	03	01	01
	09	05	01	01
	07	12	00	02
Mean	5.7	5.9	0.5	0.7

Follow-Up	03	00
	04	00
	03	01
	02	00
	04	00
Mean	3.2	0.2

APPENDIX TWO

The Data for Child Behaviour across the various Phases of the Pilot Study and Four Experiments.

Pilot Study

Phase	% Inappropriate		% Nonengaged	
	MK	RY	MK	RY
Baseline	14	06	03	09
	01	12	06	28
	17	16	06	27
	00	-	06	-
	03	07	42	17
	02	16	23	32
	14	10	20	31
	05	02	19	10
	01	12	21	28
	07	01	08	14
	00	00	46	01
	01	06	20	20
	-	03	-	21
	12	08	10	07
	01	00	21	05
	02	01	07	06
	09	04	08	06
	10	01	07	15
	04	01	00	10
Mean	5.7	5.9	16.0	21.7
Implementation	10	00	00	04
	10	00	15	06
	16	04	07	05
	11	00	05	07
	10	01	00	08
	05	13	00	15
Mean	10.4	3.0	4.5	7.5

Experiment 1

Phase	% Inappropriate		% Nonengaged	
	BK	CY	BK	CY
Baseline	15	07	03	05
	10	03	01	06
	32	-	13	-
	18	04	03	07
	20	05	01	00
	10	-	02	-
	11	-	02	-
	13	07	08	01
	19	03	02	03
	28	05	00	03

	14	03	00	03
	10	04	00	10
	16	05	01	10
	30	07	09	05
Mean	17.5	4.8	3.2	4.8
Implementation	11	-	00	-
	09	02	00	01
	09	-	00	-
	10	02	01	01
	-	-	-	-
	01	01	04	00
	06	-	03	-
	03	02	00	02
	06	02	03	00
	04	02	03	01
	05	00	00	01
	05	-	01	-
	01	01	01	01
Mean	5.5	1.7	1.3	1.1
Follow-Up	04	03	01	00
	05	-	00	-
	08	01	00	00
	06	-	01	-
	09	02	00	01
	-	02	-	00
	-	03	-	01
Mean	6.4	2.2	0.4	0.4

Experiment Two

Phase	% Inappropriate		% Nonengaged	
	ST	BE	ST	BE
Baseline	13	08	05	08
	10	04	03	10
	03	23	01	02
	02	-	00	-
	17	16	01	00
	08	14	03	00
	11	08	04	01
	10	-	03	-
	10	-	00	-
	08	10	01	00
	09	03	00	03
	07	05	00	02
	12	09	00	04
	06	11	01	01
	05	12	00	00
	08	07	00	00
	06	08	00	01
	02	-	00	-
Mean	8.2	9.9	1.2	2.3

Implementation	04	04	00	00
	02	00	00	00
	00	01	00	00
	10	11	00	00
	02	03	00	00
	02	02	00	00
	06	05	00	00
	02	02	00	00
Mean	3.5	3.5	00	00
Follow-Up	06	02	00	00
	06	04	00	00
	08	00	00	00
	02	06	00	00
	03	00	00	00
Mean	5.0	2.4	00	00

Experiment Three

Phase	% Inappropriate		% Nonengaged	
	SA	RY	SA	RY
Baseline	23	-	00	-
	21	10	00	01
	09	08	01	00
	11	09	01	02
	07	07	02	01
	08	06	07	04
	11	08	01	00
	10	02	01	01
	08	19	02	01
	11	08	03	03
	11	04	00	00
	16	02	01	01
	13	05	00	00
Mean	12.3	7.3	1.5	1.2
Implementation	06	05	00	00
	06	04	01	00
	03	06	01	01
	01	01	00	00
	02	04	03	01
	-	06	-	00
	02	06	00	00
	-	03	-	00
Mean	3.3	4.4	0.8	0.3
Follow-Up	04	04	00	00
	05	06	00	01
	04	05	00	00
	02	04	00	00
	06	03	03	00
	02	08	02	00
Mean	3.8	5.0	0.8	0.2

Experiment Four

Phase	% Inappropriate		% Nonengaged	
	JN	ZK	JN	ZK
Baseline	15	-	07	-
	22	-	08	-
	09	08	06	03
	24	-	03	-
	13	-	03	-
	18	-	07	-
	24	08	06	06
	23	11	05	05
	16	18	06	12
	10	09	01	08
	07	11	01	06
	25	11	03	11
	23	-	00	-
	15	05	05	07
	16	-	04	-
	17	21	01	04
	25	09	02	04
	29	14	02	03
	13	09	03	03
Mean	18.1	11.2	3.8	6.0
Implementation	12	06	00	05
	08	-	00	-
	15	-	01	-
	12	12	04	12
	10	08	02	02
	13	14	01	03
	12	13	03	01
	07	08	01	05
	10	03	01	01
	16	-	02	-
	10	09	01	01
	16	-	02	-
	12	07	03	04
	10	12	01	01
	08	07	03	01
Mean	11.4	9.0	1.7	3.3
Follow-Up	08		02	
	12		03	
	12		01	
	14		01	
	10		02	
Mean	11.2		1.8	

APPENDIX 3

QUESTIONNAIRE

NAME_____

Instructions: **1) Please answer all questions.**
2) Answer by ticking the appropriate box, or where appropriate, making a comment.

SECTION 1

1. How many years have you been teaching?_____ years.

2. How many years have you been teaching children of this age?_____ years.

3. Which of the following do you hold?

a) Diploma of Teaching
b) Higher Diploma of Teaching
c) Advanced Diploma of Teaching
d) University degree
e) Specialised post-grad course i.e. STN
f) Other_____
_____

4. Have you had any training in the field of behaviour management?

_____
_____
_____

5. How many children in your kindergarten do you regard as posing management problems?_____ children.

6. Can you list some of the inappropriate things these children do?

_____
_____
_____
_____
_____
_____

7. Do you consider you consider that you have the skills to effectively manage these problem behaviours?

Yes No Unsure

Comment_____
_____
_____
_____
_____
_____

SECTION 2

8. If you have a child in your kindergarten who is frequently disruptive would you...

a) leave him or her to make their own choices about their behaviour?
b) refer the child to an outside agency?
c) attempt to change the child's behaviour?
d) discipline the child whenever s/he is behaving inappropriately?

9. If a child in you kindergarten is aggressive towards other children, would you...

a) take the child away and read her/him a story?
b) confront the behaviour by punishing the child and attempting to teach alternatives?
c) ignore the behaviour?
d) call the parents and ask them to remove the child?

10. Do you think young children should be given tangible rewards for appropriate behaviour?

Yes No Don't know

11. Do you believe that young children should be punished (ie. using time out) for inappropriate behaviour?

Yes No Don't know

12. Do you believe it the task of a teacher to reward and punish young children?

Yes No Don't know

13. In your view is it fair and reasonable to deliberately change inappropriate behaviour in young children?

Yes No Don't know

Comment_____
_____
_____
_____

14. How do you believe that young children become aggressive?

a) the foods they eat?
b) genetic causes?
c) they learn to behave that way/
d) it is a developmental stage?
e) other_____
_____

SECTION 3

15. In your opinion is the management of children's behaviour a major priority for your professional development?

Yes No Don't know

16. Please rank in order (ie. 1,2,3...) the following in terms of their importance for preschool children.

a) development of sound values
b) ability to relate to others
c) emotional stability
d) development of spiritual beliefs
e)other)_____
_____

17. If you were given the chance to attend an inservice course in any of the following areas, which would you choose?

a) computers in education?
b) teacher effectiveness training?

c) behaviour management?
d) Piaget for teachers?
e) transactional analysis for teachers?

18. For children of the age you teach, please identify and write down some social and academic behaviours which you consider appropriate and inappropriate.

Appropriate	Inappropriate
1	
2	
3	
4	
5	
6	

Having had the Training Programme which has been described to you outlined by the trainer, are you prepared to take part and to implement the skills which you are taught with specifically targeted children in your kindergarten?

YES **NO**

Many Thanks

John Langley

APPENDIX 4

POST-TRAINING QUESTIONNAIRE

NAME _____

INSTRUCTIONS: Please answer all of the following questions with a comment.

1. Did you find the content of the training programme to be relevant and effective in assisting you to better manage the target children?

Yes No Don't know

Comment_____
_____
_____
_____

2. Did you find that the training programme placed too great demands on you in terms of your workload around the kindergarten?

Yes No Don't know

Comment_____
_____
_____
_____

3. Do you believe that the training programme gave you new and better behaviour management skills?

Yes No Don't know

Comment_____
_____
_____
_____

4. Do you believe that when you began to use the new skills which you had been taught that it improved the behaviour of the target children?

Yes No Don't know

Comment_____
_____
_____
_____

5. Did any of the parents/caregivers of the target children express interest in learning new behaviour management skills?

Yes No

5.1. Were you able to work with the parents /caregivers of either of the two target children in your kindergarten in order to attempt to improve their behaviour management skills?

Yes No

Comment_____
_____
_____
_____

6. Please feel free at this point to make any comments you wish about the training programme and the effect that it had either on your behaviour or that of the target children.

_____
_____
_____
_____
_____
_____

Many thanks

John Langley